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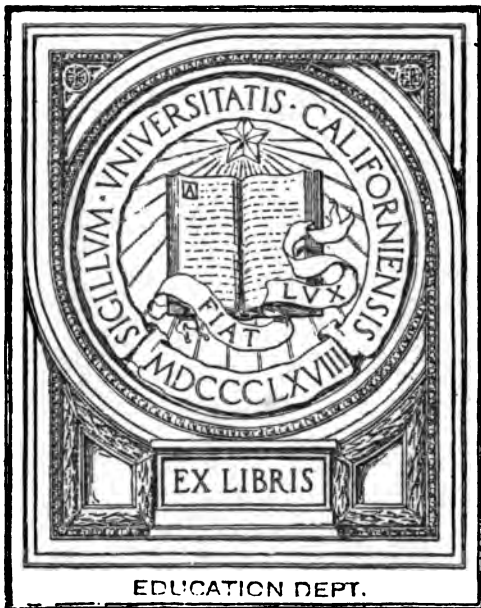
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EDUCATION DEPT.

**AMERICAN UNIVERSITY PROGRESS
AND COLLEGE REFORM
RELATIVE TO SCHOOL AND SOCIETY**

BY THE SAME AUTHOR

AMERICAN PROBLEMS.

**EDUCATIONAL AIMS
AND CIVIC NEEDS.**

AMERICAN
UNIVERSITY PROGRESS
AND COLLEGE REFORM
RELATIVE TO SCHOOL AND SOCIETY

BY

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PREFACE

A STUDY of the American University to-day naturally includes a review of present conditions and progress, and the outline of a constructive ideal. It involves a full discussion of the problem of the College. In treating the tendencies in education, they are to be regarded as a part of the movements which are affecting all existing institutions. Prominence is to be given, not only to culture, scholarship, and discovery, but to the relation of higher education to society and state, and to the great problem of democracy, which is efficient government. In a sense the university must be regarded as the organ of the people for the attainment of their highest material and spiritual welfare. The future of the American University involves vital questions of school and college—elimination of waste, efficiency of method, and adaptation to the real needs of the present day. The subject is bound up with school and society. The writer attempts to work in accord with this idea. The viewpoint of the school, the college, the sociologist, and the citizen is considered as well as that of the university administration. Accordingly three chief points have been kept in mind throughout and special chapters are devoted to them: the reorganization of American education; economy of time in elementary school, high school, and college; the relation of education to social service and to efficiency. All the best available sources of information on American education of to-day, including reports, bulletins, and current literature, have been



consulted. Besides, a circular inquiry was sent to many universities and colleges, and to teachers and investigators, asking for a statement of recent changes, and views on certain essential questions now before the educational world. A summary of the replies appears as an appendix. The obligations to these correspondents and to other sources of information and opinion are many.

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**AMERICAN UNIVERSITY PROGRESS
AND COLLEGE REFORM
RELATIVE TO SCHOOL AND SOCIETY**

I

**IDEALS OF EDUCATION RELATIVE
MOVEMENT FOR REVISION**

DOES American education meet the public need to-day? The question is put with greater force year by year, and now we have a movement for the reorganization of our system of education which shall include school, college, and university. Radical changes are proposed in form, method, and spirit. The discussion is not mere aimless criticism; it shows a keen insight into the problems of the period and a desire for self-examination on the part of the schools themselves.

The critical spirit of the time would re-examine the very foundations of our beliefs and the present organization of state and society. This tendency appears in the rational inquiry into religious creeds, new estimates of the worth of many traditions and conventions, and doubts regarding the efficiency of government and the justice of social conditions. It is a result of a practical faith in evolution, and of a new realism which has the courage everywhere to seek and face the truth. This spirit of free investigation is dominant in the study of educational reform.

RELATION TO AGE AND COUNTRY¹

Universities have always grown out of the need of their time and have been influenced more or less by the dominant thought of any given period. In Ancient Persia education aimed to fit the youth to existing institutions; in Sparta it was military, in Athens æsthetic and civic, in Rome practical. The Italian universities of the twelfth and thirteenth centuries at first were professional schools for the study of medicine, law, and theology. Professional and technical schools which were especially adapted to the conditions of the country were established in France during the Napoleonic Period. The early university in Paris stood for the current scholastic philosophy. Influenced by the Renaissance, the German universities in the fifteenth and sixteenth centuries became

¹ The theme of this section has numerous illustrations in President Thwing's volume on "Universities of the World." By many instances, it is shown that higher education not only helps create a civilization, but is determined by the civilization, is conditioned by the environments; that educational aims should correspond to the needs of the time.

This author classifies universities as follows: (1) those devoted to the discovery and publication of truth, as the German; (2) those whose aim is intellectual and ethical, developing character through the power of thinking, as the Scotch and the American; (3) those that cultivate intellect, heart, conscience, and will—produce the cultured gentleman—as Oxford, Cambridge, and some American colleges; (4) those that aim at efficiency, as in India, China, Japan.

It is by no mere chance that Oxford retains middle-age traditions, represents the highest social classes, aims at "training men"; its history is related to the feudal inheritances, the aristocracy, the church influence, English conservatism. The environment of the University of Geneva—the scenery and climate; the three nationalities represented, the great men and the inspiring history of Switzerland; the ecclesiastical influence centering at Geneva; the political independence and the sanely progressive spirit; the simple cultured life of the citizens, their freedom, energy, and industry, and their respect for education—makes the institution sane and healthful, and the student life simple, dignified, and earnest. The university of Athens revives the spirit of Socrates

humanistic. The English universities have been classical and in a sense aristocratic. The same thought is illustrated in the history of the American college from the time when it was ecclesiastical and cultural to the present period of science and specialties. For good or ill, the German system is for Germany—its history, its civilization, its ideals. In general, the education of to-day, in accord with present thought, is realistic. Whatever we may think of the motto, "our country for us," we must believe it the duty of every nation to study its own history and conditions, and to an extent adapt its education to the needs and ideals of its people—to strengthen any weakness and to cure whatever ills. If the ideals are narrow and provincial, they may breed a false patriotism, and a national "bigheadedness"; but in due degree local self-expression will develop the genius of a people and enlarge their contribution to civilization.

and Plato and represents the ancient Greek life and influence, stands for the richest culture and highest attainment of the best people. The rational and keen mind of the early Greeks reappears. The Greek student is democratic and, like his American brother, often is self-supporting in his university course. The university of Rome, situated amidst ancient ruins and in a country of dense population, emphasizes archaeology and the social sciences. The climate, the æsthetic temperament of the people, the formalism in education produce their natural results. In Berlin the temperate climate, the influence of the Protestant religion, the truth-seeking spirit of the scholar make for freedom, intellectual strength, and thoroughness of investigation. The author describes the character of the university of Bucharest as related to the small, poor, and peasant population of Roumania, their pleasure-loving nature, their indifferent patriotism, and the influence of the Greek Church. Cairo—Mohammedan, located in a mosque, with priests as professors, teaching the Koran—enthrones memory and banishes science, initiative, progress, and efficiency. He finds a dignified pursuit of learning in Peking as at Oxford, due, presumably, to the peaceful philosophy of the Chinese and their love of leisure. The Chinese student is ambitious because of the social and political rewards. Tokio emphasizes *knowledge*—due to the Japanese mental characteristics. In Japan the Chinese classics are used as we use the Greek and Latin. But the University of Tokio, in accord with all the tendencies in Japan, is modern in form and aim.

These illustrations, which might be greatly multiplied, serve to show, first, how education relates itself to its time and place; and second, that a more liberal and a more scientific view of adaptation is needed than appears in the history of education. While the university must stand for established principles, and must have the power and the courage of leadership, it must also be in sympathy with real civic needs. As has recently been said, with some authority, in France, democracy will no longer maintain schools which have no definite and useful purpose. They must teach human motives and the relations of men in society, and prepare for the various forms of public service. Above all they must stand for truth and justice—the vital principles of democracy.

The practical element in education has always been larger than is generally believed. For a long period before and after the revival of learning, Latin was the key to professional knowledge; Greek opened up literary treasures. Classical study had a value for the English statesman as well as for the clergy. A large percentage of the students in the German Philosophical Faculty become teachers. The character of modern education in Europe and America is but a revival of the historic purpose of knowledge. It is even argued that education to-day, in spite of all tendencies, is less practical than in former periods. We have professional and technical schools, and specialists in various lines of research, but we have also a large class of students to whom, in the name of culture, is transmitted the learning of the past; and we retain foundation disciplinary studies in all the schools. It may help to clarify present controversies, if we consider that tradition has given to subjects of study a value in themselves, after they have ceased to be objectively useful. If evolution and induction supplant fixed doctrines and deduction, all learning from philosophy to law and economics is based on a more scientific

foundation, and principles are increasingly applied to all the demands of life, is the fact to be deplored? Have we really and permanently lost in the things of higher value? Have we not gained immeasurably in the progress of civilization?

ADAPTATION TO THE NEW DEMOCRACY

"The new democracy" may mean only a clearer insight into the essential nature of free institutions, a firmer faith based on the later history of republics, and a fuller realization of the ideals of the democratic state. The growing sympathy for the less fortunate classes, the deeper sense of individual obligation, the aim at industrial, social and governmental efficiency, call for an education that emphasizes social ethics, vocational aims, and preparation for expert service in public administration and in organized philanthropy. Then there is an increasing belief that all educational means should be employed toward the attainment of spiritual ideals and that this is the work of the state as well as of private agencies.

It is the business of the state to provide all classes with the means of intelligent and useful citizenship, as well as to protect them from injustice and to help create for them tolerable conditions for a comfortable and hopeful life. On the other hand the schools owe a duty to the state. In the future education will not be mere "learning," but it will emphasize social duties—removal of poverty, protection of the public health, promotion of honest business, clean politics, wise legislation, and increase of general enlightenment, virtue, and happiness. To those ends the schools, colleges, and universities must exert an influence which is conscious, intelligent, and well-directed. The relation between education and democracy is suggested by the following quotations, one from a

German writer, the other from an American observer: "A continuation of the isolation and estrangement, which the pride of learning (in the conservative German school) has hitherto encouraged, is a menace to our entire civilization." "The Gymnasium is largely at fault for the growth of social democracy."

American public education has no special relation to church, aristocracy, or wealth. If higher learning has ever been influenced to a degree by class interests, it is rapidly becoming free from any undue control. The growing recognition of the meaning of democracy, especially by the "upper class," the development of humanitarian sentiment, and the larger view of personal duty are profoundly significant. As the universities gradually gain a clear and comprehensive view of society, and the spirit of exclusiveness grows less, the ideals of learning will be fundamentally modified—will become more practical and humane. In no country or age have conditions been so favorable for a sympathetic understanding and a generous relation between learning and the people. This period of educational history is filled with interest and meaning; we believe it to be rich in promise.

REDEFINED IN TERMS OF SOCIOLOGY

I am convinced we must study education in terms of sociology, and sociology in terms of education before we can relate educational aims to civic needs and make our instruction, to the fullest extent, economical, direct, and useful. It is necessary to take up the problem as if new and work out in a scientific spirit the adaptation of educational means to the end of a better civilization. While holding fast to that which is good, a careful examination of every subject and method, throughout the period of general and special education, with reference

to value in results is of first importance—and all values must be included, material and spiritual. General education may define its position more clearly; culture become more conscious of a purpose. Notwithstanding the progress of liberal thought within a few decades, American education is not yet sufficiently freed from tradition to look clearly at the whole subject. I am becoming reconciled to Ibsen and Shaw and Wells and all other ploughers-up of old fields—even the vagaries of Chesterton; they may prepare for new crops and a more plentiful harvest. May we not learn a lesson from past originality in contrast with modern imitation? Genius has always grown out of its own age. Plato proclaimed many truths good for all countries and times. But he studied education in relation to the need of the Athenians, citizenship in the interest of his city-state, government as illustrated by periods of Grecian history, music and art as expressing national ideals. Socrates studied human nature in his own consciousness and in the men he knew, and he imparted his wisdom to his neighbors and friends. To-day we have a hundred times the means of progress—a vast accumulation of material for use of the inventive mind, and should have the vision, the power, and the courage for original and constructive work.

It is true that educational sociology is vague and covers a vast range of subjects from small economies to national ideals. But the schools are doing something toward an examination of the chief social concepts and the best methods of developing them; they are striving for a comprehensive view of civic needs and the value to civilization of the various results of learning. If the sociologist has to study the conditions of effective co-operation and in general the welfare of society, he must find causes, not only in human nature and existing institutions, but also in the failures of education, and

to an extent he will look to the schools for remedies.¹ Recently an appeal was made to a group of sociologists to estimate in a rough way the effect of saving two years in general and special education upon the intellectual capital of the nation, and the economic advantage of entering practical life earlier. The inquiry included the proper time ratio between general and special education and between formal training and vocation. As reported, they acknowledged the vast importance of educational sociology, but frankly confessed that it was an undeveloped field. Should they not enter upon a fundamental study of national standpoints and the aims of democracy and relate them to learning? Sparta and Athens were able to make citizens adapted to the genius of the state. Surely we can do more to solve social questions through the schools. Passion, prejudice, hysteria, class-selfishness, injustice are modified by ideas. A stimulating view of life is teachable, a view that may notably change the spirit of a people, as has been proven by the People's High Schools in Denmark. Efficiency, industrial, social, governmental, may be wrought into the very fabric of a nation and largely by education.

As never before the attention of politics and of education is turned to the form and spirit of the state. Is the individual or the state to be the dominant idea? Is autocracy—even the military state—a necessity? Can democracy be efficient? Is there a middle ground between individualism and a highly socialized organization? What ideas and habits are needful to make the co-operative but independent citizen? Germany would answer these questions in one way; France, England and America in another—but they must be answered. The growth of centralization in this country cannot be overlooked. The interest of the government in all public problems,

¹ See Chap. IX, pp. 118-126; also pp. 10-17, 19, 23, 25, 29, 41-46, 59-61, 90, 154, 157.

the regulation and control of interstate affairs, and the expenditure for scientific enlightenment and material progress are rapidly increasing. The movement to strengthen the military power of the nation shows a change of sentiment and a modification of the conception of government, although we are sure that in America the civil power will always be dominant. In the future all the problems of civilization, including education, will take on a somewhat different aspect. The *search for truth* which is censored according to a particular theory of the state will be viewed with suspicion, and learning may forswear former gods and turn to worship at other shrines.

II

DIRECTION OF PROGRESS OF THE AMERICAN UNIVERSITY

NEEDS AND AIMS

As seen in many agreeable but unreliable writings, analysis of the character of a people may be the most dangerous as well as the easiest of pastimes. Our sociologists have a great work before them in national character-reading. But some obvious facts and sound opinions may be noted for our purpose. Here is a people increasingly democratic and becoming mildly socialistic. Industrial problems and social betterment claim the attention of the nation. "We are a people of action; we don't write history, but make it; we aim at life, action, struggle, victory." The Baconian philosophy, perverted in application, has carried us far and results in the doctrine of success at any cost. Then we have yielded to the "Romantic Movement," and the influence of Rousseau, until there is a suggestion of anarchy in our affairs. In developing a new country, we have aimed at immediate results by direct methods. Education for all, practical in character, is the watch-word—and at the sacrifice of scholarship and scientific research.

The first inference from these considerations is that the schools perforce will be democratic and aim at public service and universal welfare; second, that they must prepare for practical efficiency; third, that as a corrective to the extreme doctrines of action and success, and

of individual standards, we must reserve a place for "repose in classic shades," a place for art and philosophy, for power of thought and pure research. Of course, to-day we do not expect learning in the New West to be a mere imitation of Oxford, Berlin, or Paris, but we may look to the time when more of the valuable elements of older civilizations will appear in our development and science and literature will show a power great as the forces which have made our material growth.

It may appear that we are having a kind of Early-French-Revolution movement in all our affairs—everything new and better; learning merely utilitarian; science mere applications; each pupil a law unto himself. But destructive tendencies are only phases of development. In any ideal scheme for educational progress, the history of civilization has a still greater place; established facts and principles, selected for their value to modern life, are preserved and transmitted with greater care; scientific discovery, though applied to every human interest, is no less ideal; and there is hope that out of chaos in school methods shall grow new forms of order and regulated energy.

To-day democracy has need, above all things, of education. A long story might be told of the dangers to the "self-made" man—that at some critical point he may be found wanting and commit a fatal error through lack of knowledge or good judgment, or through overconfidence. The example may be applied to the nation. The charlatan, the demagogue, the jingo are always with us, and learning is the natural enemy of these. The atmosphere of higher education is favorable to the development of men of talent for every calling. There is need of broad intelligence in legislation, in municipal affairs, in industrial and social questions, in the work of sane reform. So much is this true that the union of expert knowledge with government has become the hope

for efficient administration. For handling questions of finance, industry, control of business, international relations, and for foreign service highly trained men are demanded. Culture in art and ethics, as a means to the best spiritual expression of the national life, is more than ever essential, and we now have a clearer view of its place and purpose. It is useful to restate from time to time the ground of faith in education. Fichte's arousing Addresses to the Germans, at a critical period, showed education to be the panacea for the nation's ills, and to-day he is held to have been a true prophet.

RECENT CHANGES

It is a far cry even from the first American college to the present university, largely free from narrow creeds and politics, with windows open to the whole world of knowledge, and with the latch-string out for all comers. The broadest conception of a university is a recent development. The first "Schools" of Athens—the Academy, the Lyceum, the Stoic School, the Epicurean School—were private foundations and represented a religious cult or a particular system of philosophy. The early New England colleges were sectarian, political, and aristocratic. Although they received state or municipal aid, as well as private benefactions, they were not state institutions in the modern sense.

The university to-day is rapidly gaining a clear view, is more conscious of its purpose, and aims more directly at results. If we restate the uses of higher education in old terms, we know these terms now have a more vital meaning. The university, in teaching the physical sciences, gives the foundation principles applicable in industry and in medicine. History, and the political and economic and social sciences are studied in the interest of better government and a more just social organ-

ization. Literature, philosophy, and art are made an influence toward larger and better ideals, individual and national. The university works for a better thought-organization of society as opposed to that kind of will-organization which is impelled by injustice, passion, and prejudice. All the schools are putting fresh energy into teaching the idea of service. The university is strengthening the special schools of Engineering Medicine, and Law in the cause of industry, public health, and justice. It makes new discoveries in directions of greatest need and promise. Every field of nature and of human nature—physical laws and their many applications, civic organization, the history of civilization, the institutions, deeds, thoughts, and ideals of men—is included in a programme of instruction and investigation which is related closely to the needs of society to-day. The university remains, as it has always been, the meeting place of the best youth for the exchange of thought, where social, political, and religious ideas are broadened. It remains, as it has been in all countries, the most permanent of institutions, and it will still see the rise and decay of governments, forms of society, and phases of political philosophy, will still pursue things of most worth, preserve the ideals of mankind, the world's poetry and philosophy, and with far vision look toward the further liberalizing of institutions and the betterment of humanity. In the present European cataclysm, one regains his sanity and hope when he turns from insane destruction to the calm thought of some English, French, or German scholar.

SCIENCE AND DEMOCRACY

American scholarship, formerly criticised for lack of productive power, is taking large strides in original thought and investigation. This is seen in the growth

of the graduate school, various activities in departments of the national government, the work of commissions on many economic and social questions, and to a limited extent in municipal examination of poverty and crime. But research has not yet a powerful hold in the public estimation, and legislation is niggardly in supplying the means for far-reaching investigations of physical laws and principles of society. Until the spirit of science leads in progress, we shall continue to treat all questions superficially and inefficiently. Much of the time and force now wasted in general education, as I shall try to show later, may ultimately be turned toward constructive work.

The native "dispositions" which dwelt in the breast of the primitive savage are a part of our inheritance, and the schools, the publicists, and the churches have failed to make vivid and forceful the regulative ideas and sentiments. Incidentally, I have often thought that an adapted logic, showing the common fallacies, should hold an important place in modern education. Europe had its period of the "Enlightenment," giving, perhaps, undue emphasis to reason; its period of "Humanism," perhaps overvaluing the conservative and aristocratic individual. Then followed the "Romantic Movement" to which Bergson now gives a fresh impulse. This exalts instincts and emotions and tends toward a kind of anarchy. American life and American education are greatly influenced by Rousseau. So long as the mob spirit is easily aroused, and mass hysteresis is a daily phenomenon, and a nation's judgment may be overturned by a catchword, and prejudices dethrone truth; when one great nation after another may topple into the abyss of war without a pause on the brink, we must seek some powerful educational means to enthronement above passion. And this question enters into our whole political and legislative system,

where rational, truth-seeking debate is seldom found. These are merely arguments for the claims of science in the schools, and as essential in the constructive work of democracy.

THE NEW POLITICAL, SOCIAL, AND ECONOMIC SCIENCES

In the study of government and society to-day we supplant theory by research; we attempt to change evolution into active progress. There is less of abstraction, of the let-alone doctrine, of "the survival of the fittest." The attitude is humanitarian and the method constructive. Political science views not only the nature of the state, but causes and movements. Sociology relates itself to reform; it believes in the force of ideas and the creative power of the will. Economics is no longer merely fatalistic or conservative regarding present conditions, nor is it altogether the dismal science. It talks in a way not merely scientific but human of wealth and the conditions of labor. History is used to aid progress. It gives the real life of peoples and the growth of enlightenment and freedom. Through it we have a deepening consciousness of the meaning of democracy, the struggle for which has been a chief cause of civil and international strife since the Napoleonic Era and the reconstruction of Europe. These facts have much to do with the relation of the university to the people. So long as the average legislator will deride an apt reference to ancient history or foreign usage, and reject expert knowledge; so long as, in considering the ills of society, effects are treated and causes ignored; so long as anarchists have faith in violence, and socialists dream of impossible Utopias, and conservatives refuse to see justice in some of the claims of labor, or the need of social reform—higher education will be called upon to provide learned and sane leaders for every sort of public

service, men who have the wisdom to amend some of the relations between the classes, and to clarify and energize the functions of government.

LITERATURE, ART, PHILOSOPHY, RELIGION

The universal interest in utility and efficiency must not turn us completely from the humanities. The old civilizations of Europe have elements of the greatest worth which it would take the average American a long time to understand and appreciate. The older peoples live in an atmosphere of noble traditions, thrilling history, great men, great deeds, of art, poetry and philosophy, which develops sentiment and stimulates the imagination. The haven of literature and art must become active in American life, if we are to attain the thought-power and richness of feeling which are the proper fruitage of material civilization. Hence liberal studies must be retained in our educational scheme. The American university will not be complete until it can teach successfully an idealistic philosophy and the spirit of religion. No civilization becomes great until it has a dominant philosophy which binds together the fragmentary, the local, the temporary with some comprehensive view. The mere history of spiritual thought will not suffice. A modern element is needed broad enough to include the facts of evolution, the ethics of big business, and the phenomena of the spiritual life; vital and forceful enough to influence the character of a people.

VOCATION. SERVICE

Vocation and service, two closely related aims, have become prominent in recent years, and may be said to characterize the present period of education. Studies looking toward occupations are provided along the

way as well as at the end of the course. This fact is more significant than any other in the revision of general and special education and the rearrangement of school periods, in defining our national ideals, and in gaining a broader view of culture.

The new conception of "service" shows a new consciousness of the meaning of the Christian philosophy, of the solidarity of society, and of the reasonableness and justice of democratic government as a form of organization. Unless, in the name of service, the schools develop in future citizens apt qualities, they fail as an instrument of democracy. The universities must extend their interest to all questions of human welfare, and justify their worth in the minds of the people. The individualism alike of corporate wealth and of anarchy, the laissez-faire doctrine of Herbert Spencer and his whole school of thought may well be supplanted by a spirit of practical good will and co-operation. We have dwelt upon some of these points because they are fundamental to a sound educational philosophy.

To any thoughtful student of the history of our times, of the character of present movements, and of the needs of our civilization, some such method of approach to educational problems must appeal. Education must be in sympathy with tendencies, although it should interpret and guide them. If vocational efficiency, public service, the applications of science, and social betterment are made prominent, if individualism is to obtain in choice of studies and in methods, we understand these things better by relating them to the spirit and need of the time. In this way too, we see more clearly the remedial value to our national ills of straight thinking, creative power, wealth of feeling, and a rich philosophy of life.

III

REORGANIZATION OF EDUCATION

"ECONOMY OF TIME"

IN 1913 a committee of the National Council of Education presented a report on Economy of Time in Education, which was published by the United States Bureau of Education, and widely distributed. At the present time three co-operating committees, representing respectively the National Department of Superintendence, the National Association of State Universities, and the Association of American Universities, are studying the questions involved. That this movement may lead to a more economical and efficient organization in the United States is the hope of many who have given attention to the subject. The inquiry was directed first to the problem of the university college, its place and use, and its relation to the secondary school and the university proper. It was evident from the beginning that the investigation would take in the whole period of general and special education. The main thesis was as follows: For students entering the university (graduate and professional schools) the period of general or preparatory education, ending at the age of 22 or 23, is too long. By selection, elimination, and more efficient methods in school and college, at least two years can be saved without loss in knowledge or power, and the student can obtain the bachelor's degree and enter the university at the age of 20. The whole subject is related

to a broader conception of culture, and to the ideals of our civilization to-day.

The early New England college graduated students two or three years earlier than the college of to-day. The high school has largely taken the place of the old college, in studies and period of time. The graduate school and the professional schools, with constantly increasing demands, have been added. And yet the college is retained, to a degree repeating high-school subjects and methods, and, in the upper years, imitating the university. The primitive American college had a distinctive value and was the almost direct way to the professions of theology, medicine, law, and teaching. Since many of its functions have been assumed by the high school and the university, the view of its place and purpose is naturally modified by the changed conditions. We retain the college as an imitation of the English type and on top of it pile the German university. Note that the objection is not to the one type or the other, but to doubling the period of higher education. In the minds of many observers, the time is ripe for a rational reorganization of the whole school system—the length of general or preparatory education, the arrangement of the school periods, curriculum, and methods.

WASTE IN AMERICAN EDUCATION¹

The European universities, those of England, France, and Germany, with some exceptions, are built directly on secondary education. In France some additional preparatory work is required between the lycée and certain university "faculties." In England the law and medical groups of university studies are supplemented by professional study outside of the university. It must be remembered that Oxford and Cambridge, like the con-

¹ Cf. Appendix B, questions 5, 6, 7, 8, 9, 13, 15.

tinental universities, offer the student when he enters from the secondary school a choice of several groups of studies—classical, scientific, and professional. The distinction between the English university and the American college is broad.

The European student enters the university at 18 to 20, while the American student adds four years of preparation and enters the graduate school at about 23; on the two-year college basis he reaches the professional school at about 21. A large percentage of American educators believe the preparatory period should be cut short by at least two years—and without loss in training. Professor Paulsen in "German Universities" criticises the delay in entering the professions in Prussia—due to military service, school and state examinations, and probationary periods. He says: "The strength and desire to begin an independent practical career are at their height at about the age of 25; in a normal nature there can be no doubt that the sum total of national capital in strength and efficiency suffers grievously on account of this belated use." And Mr. Abraham Flexner: "Youth is plastic, suggestible, energetic. Prolongation of an unrelated schooling confiscates its years of promise and enthusiasm." Treating a student as a boy too long may prove a "soul-destroying, stupefying business." It would be better to begin university work early as was formerly done in England and in New England. One's life work should be entered upon at the period of greatest hope, courage, and elasticity. College presidents are usually prejudiced against candidates for teaching positions, who to the age of 30 to 35 have spent their time in multiplying scholastic degrees; they believe something is lacking in native or acquired will power. A prolonged period of "unmotivated" work has a natural psychological effect. The economic advantage in saving two or three years for practical

service is not to be ignored. It may be claimed that the division of time between preparatory education on the one hand, and professional study and practical life on the other is not well proportioned. With economy of time, the increase of numbers in the university proper and the stimulus of university methods would produce a larger sum of intellectual capital for the nation.

Here may be presented the tentative time scheme of the committee on "Economy of Time in Education": Elementary Education 6 to 12; Secondary Education (two divisions: four and two years) 12 to 18; College 18 to 20 or 16 to 20; University (Graduate School and Professional Schools) 20 to 24. It will appear that this plan is adapted to some important tendencies in arrangement of school periods, and to schemes of practical education branching from the line of general studies.

Elementary Period, 6 to 12.¹—These limits of the

¹ The six-year course of study for the elementary grades, followed by the six-year intermediate and high-school period, is finding favor in many cities. As defined by the Bureau of Education, the intermediate school or junior high school consists of grades 7 and 8 or 7, 8, and 9—to provide for earlier introduction of pre-vocational work and of high-school subjects. In 1914, 167 cities reported the establishment of junior high schools. "There is a very general approval of the plan to reorganize our educational system to include junior high schools."

A summary of some of the more recent views is here given: The 6-6 plan will become common, with junior and senior high-school divisions, 4-2 or 3-3. The educational sentiment of the country favors saving two years in elementary education. There is a heavy loss of pupils beyond the sixth grade, and opportunity should be given these pupils to prepare for vocations. Many communities are providing secondary or differentiated work at 12 or 13. Let the high school take on two years of the elementary school; begin Latin, Algebra and some other advanced studies at 12. In general mature work is too long postponed; maturity may be over-ripe. Foreigners criticise the poor results in the American elementary schools. An important conservative thought should be noted—Elementary Education should give, not only the tools of knowledge, but the facts, concepts, and principles essential in democracy—things that are the common property of all.

period are suggested in the belief that the tools of education and the elementary social concepts can be acquired by the age of 12, that high-school methods from this time are better adapted to the pupil's development, and that at this point pre-vocational studies should be offered to some who otherwise would leave school.

Secondary Period, 12 to 18 (two divisions: four and two years).¹—Eighteen is the accepted age, here and in Europe, as the upper limit for secondary school study. It is the age for beginning higher education or entering practical life after having completed the course in the "people's college." While large high schools would carry the full six years, many small high schools would be limited to four years, 12 to 16. Studies leading to apprenticeships may well be offered at about 16. The separate colleges could take pupils at 16, and retain a four-year course, 16 to 20, or provide a two-year course for the graduates of the larger high schools.

College, 16 to 20 or 18 to 20.—The two years beyond 18 could be offered by the superior high school, the separate college, or the university college. In this plan two years intervene between the high school and the university, because the popular demands on secondary education do not permit the kind of disciplinary and intensive study equal to the need of the university student.

¹ The Report on Education in Vermont, made under the direction of the Carnegie Foundation, advocates this plan: high schools for the country districts, 12-16; central high schools, to which graduates of the district schools may go, with two added years; junior or intermediate high schools constituted by the seventh and eighth grades and the first two years of high school with articulation above; opportunity for boys to get to work at 16. Reference is made to the German Realschulen ending at 16, and to the English higher elementary schools ending at the same age, and covering the period 12-16. It is pointed out that this division of time postpones home-leaving, to go to the central school, as long as possible.

In France the schools offer a four-year primary course and a seven-year secondary, the latter in two divisions—four years and three years.

Moreover, the added years are a valuable supplement to high-school training.

University Period, 20 to 24.—The advocates of this plan believe that university work should begin not later than 20 for three reasons: first, the superior value of university methods at this age; second, the earlier preparation for life; third, the increasing demands of the professional schools.

No one knows as well as the committee referred to that the whole scheme requires years for investigation, that "economy" includes every phase of saving in matter and methods, that greater efficiency must cover the difference in time. This plan does not shorten the combined elementary and secondary periods; it is not equivalent to "shortening the college course." The question is, Can two years be saved in the whole period of general education (elementary, secondary, and college) without loss in knowledge and power?

REVISION OF THE ELEMENTARY SCHOOL¹

An educational psychologist has estimated that the part of elementary study which survives could be acquired in two years by working two hours daily. In the report on "Economy of Time," a summary of the

¹ Here follows a summary of suggestions on economy in elementary education, and in secondary as well, taken from many sources. The points are grouped under these heads: (1) Elimination and Selection; (2) Methods; (3) Adaptation; (4) Extending the School Year.

Elimination and Selection.—Eliminate non-essential subjects and matter, including obsolete topics, aimless stuff, curious bric-a-brac. In arithmetic, for instance, cut out several subjects, emphasize only the fundamental, apply to concrete problems, reduce time to the minimum. Strip the course of all content not essential—and not essential to modern life. Define minimum essentials in each subject. Make capacities and common social needs the basis of selection of studies. Let the training fit for life, relate it to the occupations of the community. Define the specific purpose of every subject, have more definite goals, let the pupils see

views of school superintendents and others is given; a few are quoted in substance: Time may be saved by more careful pruning of the course of study; making a distinction between first-rate facts and principles and tenth-rate; confining the work to mastering the tools of education; teaching content subjects by suitable methods, not by those fitted to formal subjects; teaching children the relation of what they are doing to the ends they desire to reach; securing continuous progress for brighter pupils; introducing certain secondary studies in the higher grades of the elementary school.¹

the importance of the things they are doing. Aim at definite forms of efficiency rather than false thoroughness; impressive material and definite usefulness rather than exhaustive detail; ideas are lost in pursuit of petty details. A little of science may give the scientific attitude. Minimize all sorts of distractions.

Methods.—There is too much of memory training, while the judgment is not trained. Apply principles to problems. Nothing should be temporarily memorized that is not to be permanently kept. Aim to create eagerness, independent judgment, accuracy, and rapidity. Adapt subjects to the child's growth—present them at the right period of development. Arrange a better sequence and co-ordination of studies. Secure greater industry of pupils, find their best pace, spur them to their best, work at maximum capacity, make work serious instead of soft and mushy, create power of remorseless application—avoid slow-going processes. Pupils are distracted, amused, nauseated, but not educated. Render more efficient teacher assistance, teach difficult topics more skilfully, teach pupils how to study. Have objective standards of advancement.

Adaptation.—Consider individual differences in interest and ability. Provide special classes for the physically or mentally deficient; also for the unusually capable. Make promotion easier.

Extending the School Year.—Make time by after-school, evening, and summer classes. Lengthen the school day and the school year. Very many cities are now conducting summer sessions for elementary and high-school pupils. The American school year is 180 days, the German 240.

¹ Such suggestions do not offer a panacea; the history of "fads" lessens the hope of such a discovery. One educator makes a memorandum of his experience with successive universal principles or remedies—all, one after another, rejected. Physiological Psychology (nerve cells and nerve fibers); Experimental Psychology (motor-minded, eye-minded, ear-minded); Genetic Psychology (culture-epochs, parallelism); Montessori Method (rejection of

Excessive artificial repetitions and routine tasks are condemned. "Education leads away from real life and interest in the work of the community; it must be made an agency of civilization." The committee of the National Department of Superintendence, co-operating in the study of economy of time in education, is investigating every phase of waste and inefficiency and all the means of economy. They include such points as the following: elimination of relatively unimportant subject matter and useless methods; arranging proper correlation and sequence of subjects; adapting work to the ability of the pupils: "motivating" study; increasing the length of the school year; measuring results; giving the teacher a clear view of the connection between matter and methods and the results to be reached; defining the relation of school to society. Measuring of results is more than a fad. The leaders in this effort believe every study should have a clear justification and that non-essentials should be ruthlessly eliminated; that correct reasoning and power of initiative should be attained. Minimum requirements in each subject, sequence, and methods are studied. Principles are based on much investigation and careful induction. Certain skills of course can be tested readily, but it may be a long way to the discovery and measurement of the more elusive elements of power, culture, and character.

VITALIZING THE HIGH SCHOOL¹

The high school has been called the "stronghold of educational conservatism, dominated by the philistines

sacrifice and duty); Statisticians (modes and medians, traits and abilities); Behaviorists (with their puzzle boxes); Physical Educationists (muscle and brawn); Pragmatists (contempt for the absolute).

¹ Some recent utterances on the high-school problem are here condensed for reference: Lengthen the school day and the school year. High-school students need more to do; the elective system

of culture, more autocratic than the lyc  e or the gymnasium." But we have seen great changes in recent years. More emphasis is given to modern subjects. Differentiation of courses in the interest of the individual is everywhere adopted. Germany has modified the Gymnasium; has met the modern demand by the Realgymnasium, and the more popular need by the Realschule.¹

In the scheme for revision which is the subject of this

has made the course less strenuous; the work is too soft and diffuse, it lacks consecutiveness and training power. Aim at simplicity, concentration, consecutiveness, provide coherent groups of studies. Adapt education to the future occupation of the student. Enlarge the high-school activities and give credit for various kinds of outside work. President Emeritus Charles W. Eliot in a recent address offers in substance the following views: The present tendencies in education are due to the dependence of industry, commerce, and government on applied science. Important high-school subjects are: (1) science—chemistry, physics, biology; (2) household arts; (3) use of common tools in simple trades; (4) drawing; (5) music. Books and reading should hold a secondary but important place. The elements of economics should be taught and should include: Union of labor and capital in production; distribution of necessities, comforts, and luxuries; ownership of instruments of production; relation of wages to prices; control of monopolies; means of increasing the efficiency of the entire community; capital as an agglomeration of portions of the profits of capital and labor, which savings are put into lands, buildings, factories, plants, roads, etc. Mental and moral effects are better attained by the new education than by the old. A piece of mechanical or artistic work is a moral achievement. Science is charged with beauty, grace, order, and rectitude. The Nineteenth Century—the era of science—was remarkable for great ethical development, constructive imagination, power of the body over nature, attunement of man's mind to the Creative Intelligence.

¹ "The declared purpose of the German secondary schools is not to educate the people in general, which is the oft-declared aim of the American high school, but to prepare for the university or technical school, and thereby for the government service. . . . The great freedom of the American high school fosters individual initiative, courage, cheerfulness, good fellowship, human qualities which are just as important as the passive qualities of will engendered in the German schools, namely, patience, persistence, endurance, thoroughness."—*U. S. Bureau of Education Bulletin*, 1913, No. 24.

chapter five ideas are prominent: selection and elimination in subject matter; distinguishing between formal and content subjects in methods of instruction; viewing the whole course of study in the light of the present time; adapting matter and method to well-defined results in individual development and social values; relating studies to real life.

Lack of discrimination in the use of the mass of material, much of it of little value and most of it readily forgotten, is the chief cause of waste. In many subjects there should be a rapid survey of the field, then a re-examination by intensive methods of selected topics. This procedure would give the vital knowledge, the power, and the confidence which constitute real education.

There has never been a more pernicious doctrine than that of formal education regardless of content—the belief that all studies are of equal value if pursued in the same way. This view not only disregards differences in educational values, but differences in method for various subjects. Mathematics, and to an extent languages, require drill, repetition, exactness. Science calls for correct inference from definite facts. The “drill” method is unsuited to history and literature. History, read, not “studied,” under the guidance of the teacher, may be made inviting, and a lifelong interest in it may be created. Selections in literature, chosen for their intrinsic worth, may become the source of deep and permanent inspiration. The history of literature and the formal “lives of authors” are a poor substitute for the real thing. In the early high-school years science study should be qualitative, although the scientific method should be developed by a few well-chosen experiments and illustrations. Many of the “appreciations” of culture do not call for a large place in the time schedule; they are the visions that open up at rare moments, or are the insights given by the genius of the teacher.

Still more important than these reforms is the problem of vitalizing the high-school course. In both elementary and high school representative progressive teachers may be called upon to help shape and administer the curriculum. Not only will the contribution of ideas prove valuable, but the added sense of dignity and responsibility will give new power to the teaching force. The value and use of every study should be subjected to careful analysis. Even the Latinists see this fact and are justifying the classics by a conscious effort at results of recognizable value. In the study of modern foreign languages vivid association of idea and word characterizes the method. So far as may be, the reading is supplemented by study of literary values and by interesting descriptions of peoples and places. The principles of physics, chemistry, and biology are studied in their application to mechanics, industry, and sanitation. History is read to learn about the real life of peoples, to discover the elements of progress, and to gain modern wisdom from ancient experience. For the high school "we need a graded course in human institutions, starting always from facts and conditions familiar to the pupil of to-day, and returning always with its revelations from the past in explanation and interpretation of modern life." Literature is selected for its value in giving ideals of character and service, and in enlarging the vision. Civics is no longer the anatomy of government, but all economic, political, and social study is illustrated by pertinent facts and applied to real problems; the service of state and society to the individual calling for reciprocal service is made prominent.¹ Moral

¹ "Remarkable changes are occurring in our methods of self-government. The direct primary, the initiative and the referendum, the popular election of United States Senators, the recall of officials and of judicial decisions, the short ballot, the extension of woman suffrage, preferential presidential primaries, proportional representation—these and other innovations in our methods of govern-

instruction largely takes on the social form and the properly equipped teacher has an acquaintance with elementary social questions. The pupil must be given a clear idea of his dependence for education and the comforts of life on the great mass of workers and thus gain a sympathy with all classes and some knowledge of the newer economic problems. I may add that some initial view of psychology, philosophy, and ethics belongs to the high-school period. It may be a grievous mistake that a student may ascend the educational ladder without a glimpse of inspiring philosophy.

Long ago in Germany higher general education was

ment, while aiming at greater governmental efficiency, seek this end through a larger degree of popular control. The mechanism of self-government will be built on crumbling sand unless its foundations are laid deep with an effective civic education."—*Report of Commissioner of Education, 1914.*

Edward T. Devine, Director of the New York School of Philanthropy, says that society demands that the school curriculum be rigidly directed to social functions, that education is tested now neither by culture in the abstract nor by utility in the concrete, but by the extent of the assimilation of knowledge and skill into the organic complex of personal character.

The teacher would profit by knowing some elementary facts about social conditions: the death rate, causes of juvenile and adult crime, poverty, industrial efficiency, casual labor and unemployment, physical defects in relation to mentality, undernourishment in relation to physical defects, child welfare.

The serious crimes are: truancy, vagrancy, drunkenness, prostitution, commercialized vices, desertion and neglect of family, thieving, quarrelling, and disorderly conduct.

Important social questions are: shortening the hours of labor, fixing a minimum wage, preventing the exploitation of women and children workers, social protection of the mentally defective, employment-exchanges, shifting the location of industries, aiding the immigrant to find a place, social insurance, modifying the elementary educational system to increase the efficiency of those who yearly enter or have entered industry or commerce or agriculture.

These causes contribute to poverty: exploitation of the exploitable, underpay of those who can be underpaid, overwork of those who do not know how to secure leisure, lack of protection of the subnormal, cultivation for commercial profit of vicious habits and depraved appetites and human weaknesses, the play of unrestrained greed upon individuals who have not resisting power.

assumed by the secondary school. The American high school by more efficient methods can assume at least a part of that function. Probably in the later years of the high school advanced methods may well be employed in many subjects. The Latin-American high school regularly includes such subjects as logic, psychology, political economy, philosophy. It takes the place in part of a university faculty of letters, philosophy, and pure science. It is looked upon as a department of higher instruction, although in South America there is a movement to organize a "junior university," and require two added years of preparation for the university. I believe that throughout elementary and secondary education we have too little confidence in the power of the youthful mind to absorb ideas when presented by the well-equipped, skilful teacher, and that we limit the progress of the brighter pupils to the loss of time and of the free development of the best intellect of the nation.

THE COLLEGE PROBLEM

Here we reach the problem with which we started in this chapter, namely, the place of the college. We may assume that the criticisms of the high school are in part applicable to the college and that less waste and more efficiency can be secured.¹ Professor Cattell, speaking of the student when entering college, says: "Here his physical and social environment is suddenly changed, but he finds himself pursuing the secondary studies of the preparatory school—more Latin, Greek, elementary mathematics and English composition—usually under immature tutors. Later in his course, he is allowed to elect miscellaneous, and his daily programme may have some resemblance to that of a vaudeville performance. Thus finally at the age of 22 or 23 those who stick to the

¹ For elements of waste in the college see Appendix B, under questions 13, 14.

educational system enter the professional schools and go to work in earnest, with no time for culture or research. We have a psychological justification for the artificial extension of babyhood, but possibly the college senior at the age of 23 has been kept too long in this condition."¹ We have assumed that by efficient methods in the school periods the student could graduate from college and enter the university at 20, without loss in knowledge or power.² At first sight the readjustments involved might be opposed by the college and the university. Loss of numbers, lowering of standards, and general disaster would loom up. But the A.B. degree would have its present value, though reached earlier; the college would gain in numbers, because of the earlier college age; the university attendance (graduate and professional schools) would be greatly increased; the

¹ On the matter of reaching the A.B. degree earlier, see Appendix B, questions 5, 6, 7, 8, 15.

² Some opinions from the 1913 Report of the Commissioner of Education, pp. XLI, XLII, 5-7, 74-5.—The college and the high school overlap in modern language, science, history, and classics. It was recently reported that the records of a number of graduates of a great college showed that half of the courses taken by most of the students were elementary courses. Two or three hundred of the smaller colleges should become junior colleges, limiting their work to the first two years. The degree Associate in Arts might be given at the end of the junior college, or the bachelor's degree, reserving the M.A. degree for the end of the senior college. With more efficient work in the preparatory schools, a degree at the end of the junior college should mean as much as the present bachelor's degree. Some believe that the colleges might become a middle type between the high school and the university, or special schools with a distinct vocational aim. Many older and better colleges might continue the four-year course, each concentrating on a group of subjects and making a reputation for excellence of work. Some of the best high schools are better equipped than some small colleges; the organization of freshman and sophomore college courses in many high schools seems a logical development. The state of California has sanctioned by statute the organization of junior college work in high schools.

"Chicago University in its elementary practice school has eliminated one year; it hopes to eliminate another somewhere in the school and college."

loss of freshmen and sophomores from the university would be more than compensated by the greater freedom for university work. Moreover, probably some colleges would offer advanced culture courses, and the reorganized university would include in the "philosophical faculty" literary courses leading to some new degree equivalent to the Ph.D.

THE UNIVERSITY PROBLEM

Reference to Appendix B, under questions 7, 8, 9, 15, and to the Report on Economy of Time in Education shows that the majority of educators in all grades of work would welcome a reorganization which would enable the student to reach the A.B. degree and enter the university at about the age of 20. The tendencies in this direction are numerous and significant—as appears under numbers 5, 6 and 7 of Appendix B. Waste in school, and now in the college also, is being subjected to rigorous investigation. Extending the high school downward two years is already favorably considered; adding two years above is a growing ambition of some of the larger and more efficient schools. The distinction of junior and senior college is made in many universities. Most universities base the professional schools on two years of college. Many institutions shorten the period of higher and professional education by the scheme of combined courses. When larger results are attained in school and college, it will only remain for the universities, co-operating with the National Department of Superintendence, to accomplish a reorganization which is already taking form.

Methods that give greater freedom and responsibility to the student, that develop elasticity, imagination, originality, and power, would increase the creative energy essential to progress and enhance the produc-

tive power of the nation. Instead of remaining at a mature age under formal instruction, it might be an advantage if minds made eager for knowledge should rather pursue their studies, after earlier graduation from the university proper, under chosen great masters.

The university would found the faculty of arts and pure science, of medicine, law, and engineering on the college. Provision would be made for any needed number of special faculties leading to callings requiring highly trained service. It would relate itself to departments of state and city. It would investigate all social conditions and stimulate the interest of the people in public welfare and in all forms of education. It should be distinctly noted that the "graduate school," without important modifications, would not be the model for the general faculty of the enlarged university. It would retain something of the senior college and the present graduate school, but add freedom and inspiration. It would promote investigation and research, prepare for the higher teaching, and offer culture courses in literature and pure science. It would be correlated with the professional schools. The American graduate school is an imitation of the German philosophical faculty superimposed upon our imitation of the English type of university. The elements of an ideal American system are all present; they need only organization.

THE UNIVERSITY AS IT IS

Appendix A, to which reference is made, while it reveals nothing new, gives a comprehensive view of the condition and tendency of higher education in the United States. The university proper is offering high-grade work for the standard professions and is increasing special departments as the need appears. Research is extended into every field, and scientific publications are rapidly mul-

tiplying. The most significant list is that of the forms of government, state, and municipal service in which urban and other universities are already engaged, and of the vital economic and social questions in which faculties show an increasing interest. We note the vocationalizing of the college by the increase of special departments, and the growth of university methods in college work. Finally we are struck by the many forms of extension service which is relating the university to all progressive movements and making it as never before the agent of democracy toward ideal ends.

To the comments on these lists some important facts should be added. There are over 800 institutions in the United States bearing the name of university or college; of these many are not worthy of the name; others rank with the best universities of the world. These institutions vary in size from the college with a hundred students to the university with five or six thousand; the income varies from a few thousand dollars per year to two or three million. There is every form of administration from that of the simple college to that of the complex conditions in a large university with a great diversity of departments, and a long history. Of the forty state universities, twenty are integral, that is, have the college of agriculture; in twenty states this department has been erected into a separate institution. The graduate school is stronger in the privately endowed institutions than in the state supported. Some adhere to the English type of university, especially the privately endowed, while the state universities lean toward the German type. There are many other variations: in the matter of electives Princeton and Yale are conservative, Stanford and Harvard are radical; in the attitude toward change and adaptation vital differences are found; the Western universities are more democratic; the state universities have a closer relation with

the public interests—co-operate with the state governments and extend their work among the people. Some universities minimize the applications of science; others go to the opposite extreme. We may find the spirit of devotion to scholarship, or a yielding to the desire for numbers, to superficiality and side shows.

Thus the colleges and universities of America represent great differences in form, standard, equipment, aim, spirit, and efficiency. The period of transition, following the days of the exclusive classical college, has been one of experiment and new visions, but many things have been tried out, and some safe conclusions have been reached. Out of this chaos and from this varied experience, should come some definite order and a clearer view of what is best. All the elements of the ideal American university are found in our higher institutions of learning—graduate school, high-grade professional schools, research, scientific publications, growing interest in every phase of material progress and human welfare. Some standardizing of the college has been done by the U. S. Bureau of Education, the Carnegie Foundation, and other agencies. The National Association of State Universities within a few years has defined a standard for the American university, but already it needs to be revised. As already shown, earlier admission is desirable. This idea is prominent in almost every discussion of higher education. As early as President Tappan's day, Michigan planned to relegate the entire college to the high school. Johns Hopkins started with a similar plan. Stanford has advocated dropping the first two years, as has Illinois. The division into junior and senior college is recognized in some form at Chicago, Pennsylvania, and Princeton. I believe the time has come for co-operative work in the reorganization of American education.

IV

THE COLLEGE—CULTURE

INTRODUCTORY

WE have attempted to show the connection between education and the time-spirit, the form of organization which will be most economical in time and efficiency, the relation of the university to school and society, and have summarized briefly the present condition and tendency of higher education. We have to consider the elements of progress, and the ideals to be attained, whatever may be the formal arrangement of school periods. This can be done only by studying the present system. The old debate on the humanities can not be omitted because many vital points are related to it—the causes of waste, the saving of time, the division into school periods, educational values, and the ideals of our civilization. The future of the university and its relation to democracy constitute a prominent question. Finally reference is made to various associations as instruments of reform, and to the proposed national university as a powerful agency in national progress.

Certain critics of the present college refer to the good old days of the early college, when the numbers were small, a few things were taught well, teacher and student maintained an intimate personal relation and a noble zeal animated both, and character-making was a chief aim. We suspect this past age is now seen through a golden haze, but, be this as it may, we can not clothe the spirit of to-day in the old form. The times have

changed; activities have multiplied in kind, number, and complexity; there is a new conception of culture; the high schools and universities are now occupying most of the ground formerly held by the colleges. We have passed through the period of imitation of the English college, of the founding of professional schools, of the introduction of science, and now we are planning the ideal American university. Questions of the college are to be answered with regard to changed conditions. Those who hold to the ideal of the past claim for it a supreme value: the college gives judgment, broad-mindedness, appreciation; it cultivates honesty and duty; it aims at a harmonious development of all the powers and is thoroughly idealistic. For these reasons the American college makes leaders in all walks of life and has a chief place in our education.

RADICAL VIEW

Critics refer to the fact that culture often lacks the high ideal and moral purpose which are its essential qualities, may be lazy and slothful and seek enjoyment in refined taste and varied emotional life. Oxford, for example, is "ultra-æsthetic" and maintains an epicurean attitude toward life. "Loafing in academic groves" may do little to make a man. Rhetorical and metaphysical study may induce carelessness and fail to impart the spirit of truth-seeking. They say that culture courses are soft, that students shirk work and devote themselves to all kinds of side-shows—athletic, social, and fraternity distractions. Indeed the order of interest in college activities is exactly reversed in these latter days, and scholarship is at the bottom of the scale. Students have low standards of application and of accomplishment, a spirit of listlessness that would not be tolerated in office or shop and would lose them a job

in any business or occupation. They respect athletic prowess more than the scholarship and character of able professors, and get wrong ideas of leadership and a false philosophy of life. Critics further say that American education was imported from Europe where it was adapted to class distinctions, and hence is unsuited to democracy. Some, with a degree of inconsistency, add that culture, as now understood, is a recent fad and contrary to the spirit of the early college; that it fails to attract the student and even repels from the culture that might be gained in later life.

Hence, it is claimed, the college offers an article that nobody wants. The present course leads nowhere, robs the student of the virility he naturally has, and unfits him to become a successful "problem-solver." The college is conservative, the professor is old in spirit and is always looking backward. What is needed is the forward look, giving life to the teacher and purpose to the student. The remedy is to form a union of the cultural and the practical, and thus give to the practical a soul and to the cultural an aim and purpose.

According to the same view college studies must have a more definite aim. The student must be educated for future needs. There is a demand for "applied humanities." The definition of culture must be revised and broadened. The useless quality of studies does not make them liberal. The sciences and their applications to human needs, and technical knowledge are cultural. Practical science involves a knowledge of principles, and the application of them does not detract from their value, but adds something vital. "Hellenistic classicism," æsthetic and literary, has lost its prestige in Germany. Classical antiquity is studied for historical reality rather than for the human ideal. Moreover, "another type of women is in the ascendant, marked no longer by æsthetical sentimentality and artistic enthusi-

asm, but by a determined and resolute character and a taste for serious professional work."

CONSERVATIVE VIEW

Here are presented views of the strong advocates of the old ideal. "Culture is training to see, appreciate, and use the best things that have been thought, said, and performed in the world's history—is an insight and appreciation of the best things." The Greek ideal of education was the perfect development of the individual, physically, mentally, morally—but, be it noted, for the service of the state. As revived in Germany this ideal was defined as the highest development of the man to the best type of manhood by aiming at the Greek standards. The classics, tested by time, have survived because of their worth, and hence they furnish standards of judgment amid the chaos of opinions, and suggest the restraints of reason. They give a long perspective by which to estimate the present. The Greek classics are the "source of modern thought in literature, art, music, and philosophy." Above all they teach the lesson of spiritual freedom. Literary taste and insight into present civilization suffer from their neglect. The fault of modern literature is that it treats of minor and individual things—not typical, and not for all times. The "Romantic" literature of to-day emphasizes the natural temperament, uses a "miscellaneous variety of sympathies," and makes life an "epileptic fit between two nothings." From Plato and the Greek poets to Shakespeare and Goethe the thought of literary genius has been of supreme worth. Humanism advocates the calm view of life. It opposes the extreme spirit of rush, efficiency, success, which has created for us a "Devil's sabbath of whirling machinery called progress," and prays to be delivered from anarchy and im-

pressionism. It substitutes the golden mean of moderation, of common sense and reflection. It urges the value of leisure—a leisure which is neither pedantic, sentimental, nor voluptuous, nor a dreamy reverie, and is not a “transcendental loafing of æsthetic vagabonds.” The Oxford ideal of leisure is upheld. The perverted doctrines of Bacon and Rousseau can be opposed only by the thought of men of productive leisure. It is in rare moments of meditation that we have a vision of the eternal verities. Humanism is “activity in repose.”

From the same viewpoint, mental discipline is not a myth, transfer of discipline is proven by later experiments, habits of study carry over from one subject to another, there is an increase of mental ability by training which becomes a store of energy. Mastery of principles, not the knacks of trade, gives true education. Precision of thought, exactness of expression, habits of industry, sense of power are the foundation for special study. Classical study trains the greatest number of faculties; language and mathematics are the best preparation for professional and technical courses. The many substitutes offered to-day are no equivalent; there is no substitute for them; modern subjects do not have their educational value. Typewriting, stenography, drawing, shop-work, and manual training in general do not give adequate preparation. Colloquial English, and a smattering of general elementary sciences are no better. “Vaudeville shows” contribute nothing. Both classics and science are opposed to free electives, which offer “entertainment, information, and intellectual dissipation.” Boys entering college are “flabbier and flabbier.” Easy methods do not result in the best education; agreeableness is not a universal test of value. The pupil must endure some drudgery, and be taught what and how to study. The system produces neither culture, character, nor utility—nothing but low scholarship.

A NEW HUMANISM¹

The definition of culture as the result of education varies with the conception of the ideal man both as an individual and as a member of society. To-day it must include scientific interest, useful power, and a spirit of service as well as mental refinement, or it is not adapted to the age. Culture may lack the elements of a sound character and be merely æsthetic. It is this kind of culture—and even this on the positive side is not always acquired by the student—which is the subject of severe criticism. Humanism is limited in meaning to interest in man and his ideas; as the name implies, it centers in the human rather than the natural or the supernatural. That it found the best means of education in the ancient classics is a historic rather than an essential fact, and to-day it may reach its goal by other routes. The spirit of humanism has often been self-centered, exclusive, autocratic, arrogant, and contemptuous of labor. It may stand apart from the humanitarian demands of the age, may be harmfully conservative and adopt *laissez-faire* as an attitude toward social questions. Humanism to-day can no longer deal merely with the life and ideas of the great men of the past for their influence upon the individual character, but must seek subjective worth through objective interest in human welfare and progress, though in a spirit tempered by history and science. On the other hand the conservatives have ground to attack the "impressionism" which emphasizes the claims of the individual temperament and makes each man a law unto himself, and the "humanitarianism" which expresses a universal sympathy and is often faulty in spirit and method. They may justly urge that literature and history must retain a large place in education to give ideals and perspective, and that certain

¹ Cf. Appendix B, 12.

disciplinary values must be secured, though they may be sought mainly in other than classical studies.

One historic conception of humanism made it the realism of human thought expressed in language and literature (the life and the ideas of men revealed in their excellence), as contrasted with the realism of external nature. Humanism includes principles which, readapted, have the highest value in education and life and must always be the goal of man's endeavor. It is not our purpose to give a summary of the long and varied history of humanism, but we may outline briefly one view of its spirit and methods, using the formal terms of doctrine, discipline, restraint, selection, and dignity of character. Its doctrine or teachings, aimed at the best standards, had faith in the value of perfect ideals, made ideal attainment the goal, and placed wisdom above knowledge—a wisdom vitalized by spiritual philosophy and religion. Its discipline was the education of youth in the best principles, mental and moral, the development of all the faculties and the perfection of character. Restraint was the safeguarding of life in harmony with principles; respect for social conventions and law, including moral law, and reverence where reverence was due, were inculcated. Liberty was exalted, but a liberty which was opposed to license and the pursuit of inclination. Selection meant choosing the best in all things; it emphasized choice in studies, placed quality above quantity, and intrinsic worth before success. Dignity of character was the result of these disciplines and admitted the votary to the aristocracy of worth. It may be that the free will, liberated from physical causality, which was a part of the creed, was instinctively regarded as the essential quality of man.

The "doctrine" of the "new humanism" takes on a sympathetic form, becomes in part humanitarian. The citizen gains his highest good in the good of others.

The best standards for the individual become the standards of society; perfect ideals are gradually realized in the advance of civilization; religion is made manifest in the Kingdom of God on Earth. The social sciences are made to reveal the essential character of democracy in contrast with absolutism and privilege. Classical literature must be retained, but this can be used in translation, and, in the hands of a master it may yield marvelous results. There is still a great function for the departments of Greek and Latin in revealing and applying a knowledge of the philosophy, literature, art, and institutions of the ancient world. The proper study of mankind is man and his ideas; the particular form of language is not essential. There are other classics than the ancient, which, chosen for their intrinsic worth, may properly temper the spirit of youth. The old colleges are becoming more conscious of their purpose—even the conservative. Princeton, as shown in some of its own literature, aims at an education that is literary, historical, political, artistic, and philosophical. It would bring over the lessons of antiquity to modern life. It would cultivate ideals through the masterpieces of literature. It uses college education to strengthen the power of judgment and reason, and as a foundation for scientific and professional study.

The future "disciplines" will still recognize the value of a harmonious education, creating rational, artistic, and moral power. The spirit of Greek education in the time of the Sophists is suggestive. The youth studied what was best in Greek literature and learned to use the language correctly and readily. They had a knowledge of their mythology, laws, and religion. Moreover all instruction had an ethical aim—"true opinions about the good and bad, the noble and base." The "boundless life and freedom" of the Greeks, appearing in their intellectual, social, and moral interests and activities,

may still be inspiring to the modern world. Their art, philosophy, and history "speak with a thousand tongues." But results will be demanded of the student to-day—accuracy and thoroughness, ability to appreciate the best things, devotion to honor and integrity. The graduate must face certain definite questions. Has he really gained learning and power? Can he apply his knowledge? Does he readily find a place in education, journalism, business? Can he appreciate art in all its forms? Is he sanely progressive and has he a vital interest in the public good?

"Restraint" has been both a virtue and a vice. While it has been a regulative power in human thought and action, it has failed in constructive energy. Goals, not barriers, are best for conduct and character. The new humanism is opposed to license which exposes democracy to the charge of many weaknesses; it sees the danger of extreme individualism in motive and belief and in literature and education. It recognizes the value of historic and literary wisdom. But the scholar to-day must take truth for his goal and scientific revelation for his guide. He must trace the evolutionary process in history and thus interpret the present and to an extent forecast the future—at least see more clearly the ideals and the possible ways of attaining them.

"Selection" is a doctrine of largest meaning for this age. Amid the chaos of fragments, trivialities, misdirected energies, and rampant individualism, we may well exalt the principle of aiming at the highest and best in all things. Selection regards relative values. It elects the best in literature, art, and ideas. It would preserve intellectual and ethical standards, improve society, develop leadership, and create efficient government. Democracy will never know its intrinsic quality, or realize its possible ideal, until it uses its best leadership and adopts as its own all the agencies of progress.

And the "freedom" which humanism asserts, as against the physical law of causality applied in the realm of the spirit, is the life of progress to-day. It is the ground of faith in the force of ideas, and the power of the will to shape reality.

Science has not proven all-sufficient as a teacher of the virtues comprised under wisdom, or of rational action. Energy strides past ethics; the "law for man" is neglected in the struggle for things. Science has made the world industrially efficient, but also immeasurably more destructive in war, into which the best schooled and the most productive nations blindly plunge. In these days it is natural, perhaps also just, to allege that the science of nature's forces does not give the humane feeling that is the bond of society, or the imagination to create poetic wisdom, or the broad philosophy needed for the co-ordination of facts and for a comprehensive view of the world. Training of character must go with scientific knowledge. Science needs to be penetrated with the spirit of humanism. "The sole hope lies in humanism, and in the broadening of the soul that follows slowly after democracy." We are learning that the highest expression of this spirit is Christianity, which now must be given opportunity to do its perfect work and create a new idea for the nations—the idea of a better way than human warfare. This may be said in spite of the fact that the formal teaching of religion has signally failed in implanting the essential idea of universal good will. It is not effective in the schools. The Church acknowledges that it has not made the Christian doctrine powerful in the affairs of nations. But the fault lies not in Christianity, but in the lack of it. Applied, it would give a moral law to states, and to civilization a supreme guiding principle.

The new humanism has for its basis a knowledge of sociology, politics, philosophy, history, literature, and

art. It centers its interest in the needs of the present. We have already referred to the fact that the Greeks related their education to their own time and country. Philosophy must have an immediate vision; psychology and literature must deal with the urgent hunger in the soul to-day; sociology must strike a chord of sympathy. Humanism will have an insight into man's nature as conditioned by the present. Whatever of the exclusive and aristocratic has been contained in it will be eliminated. But, in accord with the old ideal, it will be the business of general education to make men "sober, considerate, strong in thought, deliberate in action."

The progress of democracy will depend upon a trained intelligence, capable of ascertaining facts, drawing from them accurate conclusions, and using them in a humane spirit. The college will be broad enough, not only for cultured leisure and the need of the learned professions, but for business, and for the average citizen in whatever occupation. The majority of students will take the more direct routes to vocations. In practical education elements of culture will appear as "by-products," and be none the less valuable for their derivation. For the average student the humanities will be limited to literature, social interest, and civic duty. Colleges of the conservative class will retain traditional courses and the university proper will offer studies in literature leading to some distinctive degree. But this type of education will be for those who have a purpose and appreciate their opportunity.

V

THE COLLEGE—SCHOLARSHIP

THE CONDITIONS

WHATEVER changes may be made in the form of organization of the college, the methods which should secure the best results would in any case apply in the advanced years of general education; hence principles may be discussed in connection with existing conditions. The vigorous attacks on the college have aroused a keen interest in all its problems. It is claimed that there is nothing in our civilization so wasteful. The Harvard investigation of college efficiency, made a few years since, showed that the amount of study was not more than one-half of what the professors fondly and innocently believed it to be. The college has been called a delightful place of residence with a few compulsory duties indifferently performed; "the side shows swallow up the circus." Mr. Birdseye in his volumes on the college gives strong emphasis to the idea that the gross and largely preventable waste in college would be intolerable in any business and that some remedy must be found and effectively applied, if the reputation of the institution is to be preserved. Professor Joseph Jastrow sums up the current criticisms in pregnant phrases: "Students have no intellectual interests, no application, no knowledge of essentials, no ability to apply what they assimilate; they are flabby, they dawdle, they fritter and frivol, they condemn the grind, they miseducate the studios,

they seek proficiency in stunts, they drift to the soft and circumvent the hard; undertrained and overtaught, they are coddled and spoon-fed and served where they should be serving; and they get their degree for a quality of work which in an office would cost them their jobs." Of course these are exaggerated opinions which Professor Jastrow does not wholly adopt, but they contain too much of truth. A college course of "non-athletic, citizen-building functions" is still conceived as possible.¹

The causes for differences in scholarship have been here and there the subject of limited investigations, and results have been tabulated, which, however, should not be used for broad generalizations. The reports made show that technical students are superior to college students, country students to city, women to men, non-fraternity men to fraternity members, that those prepared in high schools surpass private-school graduates. In one institution the scholarship, as affected by residence, ranked in the order of those living (1) at home, (2) in private houses, (3) in college dormitories, (4) in fraternity houses. In the universities of the Northwest, German and Scandinavian students are reported as carrying off the honors. These statements are not highly important in themselves, but they are suggestive and may lead to a larger and more thorough investigation to discover the means of raising the standard of scholarship.

REMEDIES

The disease is deep seated and requires radical remedies, among which those already urged, namely, an earlier college age and gaining a clear purpose are chief. The abuses of the lecture system, the value of the preceptorial system, the spirit and attitude of the student, and the influence of electives are important enough for separate

¹ Cf. Appendix B, 13.

sections. Some of the milder prescriptions may be offered first: rejection of unfit candidates, care after admission, adaptation of courses, a greater efficiency of college organization, and a more earnest spirit.

Do not postpone the discovery of unfitness of students, but discriminate at the time of admission. The number of entering students should be largely reduced. Stanford excludes candidates, not on examination marks alone, but on other and more important grounds. It bars those of mediocre ability, persons immature and not of serious mind, the dissipated, and in general those of doubtful character or trivial disposition. Students once admitted should be cared for from the first and an accurate knowledge of each individual should be recorded for reference at different stages of his college life. The courses of study must be adapted to the needs of the age, modernized and vitalized. A large per cent. of college graduates now go into business, and loafing, partly the result of purposeless work, is not a good preparation. Problems are rapidly multiplying—the vast and complicated questions of large business, the intricacies and scope of legal matters, the increased functions of medicine, the forms of applied Christianity—and these call for “problem-solvers.” The men who are to be equal to modern demands must be trained in accuracy and power. The goal must be clear to the view, matter and method must be adapted to the end, interest in the results must be aroused and concentrated effort secured. Some kind of effective supervision of the instruction in the college may be as necessary as in a school system. The head professor should be held responsible for the character of the teaching in elementary subjects. Twenty-five kinds of defects in methods of college instruction were enumerated by a recent college survey. In general there must be a more thoroughgoing conduct of the college, a more potent influence, and a more earnest

spirit. This is the burden of Mr. Birdseye's thought when he appeals to schools, fraternities, alumni, faculties, and trustees to join the fight for vital reform—for a vigorous mental discipline in our colleges, a revival of lofty ideals and the essence of religion.

METHODS: THE LECTURE; PRECEPTORIAL SYSTEM

Since the importation of German methods, the lecture system has come into use in the American college, and it is sometimes employed with little discrimination. Reading stereotyped lectures or dictating endless unorganized details—to the just wrath of the student when he is not reduced to passive stupidity—is one of the evils. Often the lecture is no proper substitute for the textbook, selected reading, and the reference library, together with the seminary and the conference. The proper uses of the lecture appear to be surveying the field, noting the points of chief importance, and pointing out their value, absolute and relative. Sources and references are given, and methods of study are suggested. Reading, conferences, and quizzes are the necessary complement. The syllabus is of undoubted value. Recognizing the limitations of the lecture, one prominent college recommends three parts of recitation to one of lecture. The Wharton School of Finance prescribes two quizzes to one lecture, and insists that all teaching shall be “clear, sharp, and decisive.” “The students must be taught and drilled, not lectured without care whether or not attention is paid.” The method of examination receives its share of condemnation. It is too much a test of memory rather than of power and hinders the free play of thought and judgment in the process of learning. It makes teaching and study a preparation to pass examinations. Even at the risk of being misunderstood, it must be pointed out that an examination should be

selective, covering only the chief points, and that these should be made known to the students in their review. An examination should often be more a thesis than a quiz.

The Princeton "Preceptorial System" attracts well-merited attention. Divisions of classes are made on the basis of scholarship.¹ The preceptors meet the students in small squads weekly. The work of the preceptor is to show the student how to study and to be to him a "guide, philosopher, and friend." The results of the system, it is claimed, are very marked—increase of reading, better topics of conversation, more study, more purpose. The Princeton plan is in accord with the idea of "individual training" so strongly recommended in recent years.

THE SPIRIT OF THE STUDENT

The spirit of the student body is both a result and an index of the character of the teaching and administrative influences of the college, and it is related to the question of scholarship. To free a college from the superficialities and distractions found almost everywhere is a Herculean task. Johns Hopkins, the type of a real university, is often cited as a model for scholarly zeal. It is free from the usual distractions. The laboratory, research, vital methods create a joy in work. This may be an additional argument for the reorganization proposed by which the student will be introduced earlier to university methods. A zeal for learning is aroused by objective aims or by methods that give responsibility

¹ "From tests on thousands of children in the public schools of New York it was found that the bright students were six times as good as the dull students in all sorts of work, from spelling to practical reasoning, that is, they could learn six times as fast or do six times as much in the same time. The difference between the highest third and the lowest third of a class was three or four times. The differences in the ability of university students to master tasks are probably greater than among school children."—Slosson, in *"Great American Universities."*

to the student and a sense of pleasure in initiative and in the power of doing. An important criterion of the worth of a college is the existence of vigorous debating, scientific, religious, and civic student organizations. Interest in choice literature is another test. Intelligent reading of the works of the great thought-makers past and present, reading which is the mark of the cultured citizen, is all too rare among college students. The days when Aristotle was known and discussed, in so far, were better. Partisans claim, perhaps justly, that more earnestness is found in the West, and that the alumni are more progressive. This may be partly due to a sense of the value of time and money in institutions where a large percentage of the students work their way, or is it due to the fresh visions of new communities freer from the influence of the past, revealing the splendor in realities, and exciting a zeal for knowledge?

ELECTIVES

Some form and degree of election of courses are granted. We are here first concerned with the effect on scholarship. How can we secure the essential training in accuracy and thought power and yet retain the advantages of freedom of choice? In school and in college, following inclination, which often means avoiding difficulties, easy courses, non-coherent work fail to educate. Our school system is exposed to merited criticism, and the verdict of Oxford is justified that American students are untrained in mind and will. In an unlimited elective system, the student is subjected to the temptation to browse at will, to "scatter," or to specialize too early. The system involves a false theory of equivalence of studies, and measures soft courses in hours against disciplinary subjects.

I hold this as certain, that no student should go through high school, much less through school and college, without

at least a glimpse at each chief field of knowledge, or without certain disciplinary training. We may question whether there is any substitute, at a certain stage, for the formal subjects of language and mathematics. The grammar of some language, giving a clear knowledge of the sentence and the power and relation of each of its parts, is indispensable. Severe sentence and paragraph analysis, and the orderly development of the theme almost constitute education. We have here the form in which all thought is clothed, the instrument of all knowledge, the power of logic and the insight of psychology. There is much bad pedagogy on this subject. To those aiming at college, power is more important than varied information; for those entering the university general and unorganized knowledge is no sufficient preparation. In the college certain required basic subjects in the first two years and the group system in the last two, together with a percentage of free electives, appear to be best adapted to present conditions. This system is often limited in its working by unnatural groupings to maintain the balance of power between departments. Consistency in courses may be promoted by honor degrees which are granted only for well-chosen and properly related studies for which there has been adequate preparation. In the graduate school there is too much unorganized, mere after-graduation work, where the purpose should be to become a master in some definite field. The extreme advocates of election are opposed even to the group system as unwarranted interference with the freedom of the student, and as furnishing but a sorry attempt at artificial regulation. But a regulated freedom is the approved doctrine to-day. Harvard has recently returned to a form of prescription of studies.

On the other hand we must weigh certain advantages of liberal election. The diversity of minds is such that no two students would make exactly the same selection

in the entire course. Different abilities, aims, and tastes must be considered. The same thing in the same way for everybody is a false principle. A student who would be made passively stupid in one line may find interest and stimulus in another. In the school period, there must be courses branching toward the vocations, and various other adaptations must be made. The "individual method" is sound in theory. The elective system gives freedom of opportunity for all, when prepared for a given course of study. Provided he has a definite purpose, the qualified student may be admitted to anything, and, in some cases, the special student may with advantage do as he pleases. Large flexibility in the school system is adapted to the American idea of education for everybody, as contrasted with the English view of education for the élite. Europe is being converted to the doctrine of election, "with its bifurcations, trifurcations, and options at every stage from the elementary school to the university."

VI

THE COLLEGE—ORGANIZATION

FUTURE FORM AND FUNCTION

WHAT is to be the future form and function of the college? ¹ The student may choose among the greatest variety of cultural and practical subjects. There are special schools with special bachelor's degrees: schools of education, commerce, home and social service, public health—a list to be extended according to the public demand and the ability of the institution to increase its work. This variety of functions is a startling departure from the old fixed curriculum, and the unlimited autonomy of the college is a striking contrast to the Prussian centralized regulation of the school system. Some frankly advocate that the college be made distinctly a post-high-school and pre-university institution of two years.² Here humanistic study and vocational lines

¹ Cf. Appendix B, 10, 15, 16.

² "It seems no longer utopian to think of, to plan and to work for a time when each city and each county of the state (California, where a dozen junior colleges have sprung up in the past five years) will have at least one junior college; in other words a full-grown high school. First the junior college must function as a middle vocational school. What the normal schools are doing for one calling, junior colleges must be expected to do for as many callings as training can or should be provided for, in the interest of the greatest efficiency of the greatest number. Secondly, the junior college must function as an organic part of a high school full grown. Thirdly, the junior college must institutionalize modern insights into the relation of the school to social progress, and into the pur-

might be added to the high-school years, and special preparation for the university departments might be provided. A large percentage of students are aiming at law, medicine, teaching, theology, engineering. Groups of study looking toward these fields might be organized: for law—history, constitutional government, logic; for medicine—chemistry, biology; for teaching—psychology, education, selected literature; for theology—history, social science, psychology; for engineering—mathematics, physics, etc. Others, like Mr. Abraham Flexner, would restore the integrity of the college in an adapted form by (1) lopping off the graduate school except in the well-equipped university, (2) banishing seminaries and research, (3) organizing the *dissecta membra* into definite fields of work, each thoroughly equipped, (4) making interest and the mastery of power the ideal aim. In short the priority of the college is to be reasserted.

If the college is to retain much of its traditional character, it would appear that graduation must be reached earlier. Some of the special departments of the college would then be transferred to the university; pre-professional courses could be made the means of both culture and severe training, and would fit into the college scheme. Specialization is demanded at an earlier age, and this fact is a determining force in the gradual emergence of order from the present chaos.

poses and methods of instruction and training during the whole period of adolescence."

"In Missouri the junior colleges are with one exception private colleges that have recently given up the practice of offering complete college curricula. The South seems to be a favorable field for the development of junior colleges on private foundations. For many students who are not destined to study in a university the greatest service the junior college can render will lie in the direction of vocational training based only on the academic training furnished by the high school."

SPECIAL SCHOOLS IN THE COLLEGE¹

Preparation for teaching is the first line of specialization in the college; historically this has been one of its chief functions. To-day the courses are adapted to the increased and more specific requirements of the profession. The college curriculum contains the general and special subjects needed by the teacher; to these it is necessary only to add the history, science, and practice of teaching. Literature may be made the source of the most vital and inspiring pedagogical thought. Practice teaching is a necessary adjunct of a school of education. This may be provided in connection with the local public schools, to the mutual advantage of the college and the schools. The college of education of the University of Minnesota has arranged with the Minneapolis schools for undergraduate practice teaching. Graduates of the university who are engaged in advanced study may become teaching assistants on part time in the city high schools. If the finances allow, a practice school may be maintained by the college. The legislature of Wisconsin has authorized the Regents of the University "to conduct and maintain a school for demonstration and practice in order to complete the organization of the school of education." Under this act the "Wisconsin High School" was opened in 1914 in a building specially equipped for its purpose. It is a six-year school, including the seventh to the twelfth grade. Economy of time is emphasized, and bright pupils may complete the course in five years. As is already done in some states, the teacher candidates may be given apprentice work in the high schools—an ad-

¹ An examination of about forty colleges and collegiate departments of universities gives the following results regarding the final occupations of the graduates: teaching 25 per cent; commercial pursuits 20; law 15; medicine 7; ministry 6; engineering 4.—*U. S. Bureau of Education Bulletin*, 1912, No. 19.

vantage to the students and certainly an economic advantage to the high schools. The stipend may come from university scholarships, or from the public schools, or both. The specialization within the department of education may be increased according to the demand and the facilities. Teachers College of Columbia University gives courses, founded on cultural and scientific studies, in "vocational training in industrial and household arts, dietetics, institutional work, public health, fine arts, the art industries, music, physical training." The attempt of normal schools to include preparation for higher grades of teaching appears to many an unnecessary duplication of the college. The college has this advantage: it stands first for scholarship and is less tempted to overemphasize method. Some of these schools would enlarge their scope to include preparation of college and university instructors. We are reminded of Professor Paulsen's satire on a similar scheme in Germany—to provide "teachers who should teach teachers how to teach the art of teaching in a university-teachers' seminary." They would train teachers for the university, giving them the method, the practice, and the knowledge!

A large percentage of college young men enter business. The "school of commerce," using regular college courses, and adding special and applied subjects, is found in many institutions. Many vocational aims are included—business, accounting, insurance, banking, journalism. Each special course is held strictly to college grade and is made equivalent to any of the college groups. The differentiation comes in the last two years, when the work branches toward the several vocations. The bachelor's diploma, with an added diploma certifying to the special work, is granted.

Specialization can be carried to any desirable extent. It brings about a degree of organization, holds the college to more definite aims, and meets a popular demand.

There are departments of social and home service and of public health. Schools of music, art, etc., being highly specialized, could exist only by the side of the college or as separate foundations.

Two types of education, represented by Berea College and the Danish Peoples' High Schools, are worthy of note here. Berea College, located in the Appalachian Highlands, is doing a peculiar work for that region. While it educates toward professional callings, it just as earnestly prepares for home making, agriculture, industry, and commerce. It has made a study of all the vocations of this mountain region and has adapted its work to improve every important phase of the material, social, and mental life. It touches conditions as they are, and attempts a general uplift of the communities. In this work it deals first with the specific callings, second with underlying principles, third, with the higher life values—the social and moral ideals. These communities which remained stationary during the great onward movements of the past century are given an impulse toward better conditions. The Danish Peoples' High Schools, established through the influence of Bishop Grundtvig, are remarkable in their power for the uplift of the common people. They admit only pupils above eighteen years of age. The instruction includes (1) Danish language, literature, and history; (2) physical culture and singing; (3) science and a few other subjects. Practical work is given little direct attention. The aim is at a more inspiring view of life and a more cheerful and earnest devotion to its work and duties. These schools are for the people and not for the professions or the aristocracy. The history, the poetry, the legends of Denmark, the progress of civilization are made a living force. There are 80 of these schools with 10,000 students. The schools are open in the winter for boys and in the summer for girls; the usual attendance is

for one session. It is stated that these schools awaken a new spirit and contribute to the material, moral, and religious uplift of the people.

Coeducation and the type of education for women are recurrent questions. Coeducation is the rule in the West. Harvard and Columbia do not admit women to undergraduate courses, but separate, though partly related colleges for women, are maintained; Cornell has a separate foundation, Sage College. Segregation has been attempted at Chicago and Wisconsin, but failed to meet the popular approval. Probably the only segregation will come through a differentiation of courses. Schools of commerce and engineering are provided for men; a school of home and social science should be provided for women. In one university the Home Science and Arts Department is put into the A.B. course; it is built on a solid foundation of chemistry and biology, and the applications are substituted for a part of the laboratory work in these sciences. A committee of the Trustees of Cornell University have recommended vocational courses for women. This represents a marked change from the idea that culture courses are peculiarly fitted for them. Women may gain the same advantages as men from sociology, economics, political science, history, psychology, chemistry, and may show a like interest in preventive medicine, public health, and social betterment. "Women have a natural instinct for municipal house cleaning." In college they may take up all pertinent questions of their own government and of their community and individual welfare. They may extend their influence to the homes of the city and state and thus perform an important work of investigation and service.¹ One recalls President White's ideal

¹ Courses in household arts are reported by 252 colleges. The movement to reach the out-of-school women with a knowledge of better home making is significant. "It calls upon colleges and

of education for women—"the infusion of ideas which would enable women to wield religion, morality and common sense against this burdensome perversion of her love for the beautiful." A report on the schools of Latin-America shows that women are found in small numbers in the culture courses, but invade vocational departments, such as those of teaching, medicine, pharmacy, dentistry.

SUMMER SCHOOL

Many colleges will ultimately adopt the summer quarter and run the full year with brief vacations. The summer school has come to stay, spite of the doubt or opposition of faculties. There is still suspicion of the character of the work, the preparedness of the students, the devotion to study, and there are doubts of the wisdom of giving the usual credits especially for graduate study. But the summer school is a great advantage to regular students who wish to "make time," to graduates who wish to "brush up," to experienced teachers and others who wish a fresh draught from the fountain of knowledge. It is an advantage to the graduate student who can thus economize his time for study, while teaching during the remainder of the year. The summer students are often mature, eager, and studious, and in well organized courses credits for their work can be given with confidence. All departments of Columbia University are now open to summer students, including the schools

universities for extension classes and popular bulletins; it includes numerous social enterprises, the churches, settlements, charity societies, housekeeping centers, welfare societies such as those on infant mortality and housing, women's clubs and parent-teachers associations; it expresses itself through a great popular literature of books on the household and household periodicals; and finally, it is now taking the efficient form of continuation schools for home women, organized in connection with the public schools."—*Report of Commissioner of Education, 1914.*

of medicine, law, and architecture. Courses are added in diplomacy, international conciliation, and the history of current events. Special opportunity is provided for intending teachers of commercial subjects, of agriculture in the elementary schools, and for leaders in the boy scout movement.

VII

THE COLLEGE—THE STUDENT SIDE

CARE

TREATING college students like university students is an admitted failure. The students of the old college were subject to many rules and restraints, were required to attend chapel and church, and had the benefit of close personal touch with the president and instructors. In those days, when intimate relation with distinguished teachers was the rule, many great writers and leaders were graduated from such colleges as Harvard and Princeton. We can hardly expect or desire to revive the paternal care of the old college, much less to reach the ideal of the ancient Sophist, Himerius, who enjoined upon his students "to throw aside the ball, close the play ground and open the Muses' work shop, run no more about the lanes and alleys of the town, avoid the public theatre, avoid luxury and daintiness, and be severe in their lives and superior to luxury." The old régime is as undesirable as it is impossible; there is a larger freedom and responsibility to-day, and the spirit is emphasized more than the form.

Most of the students come from large high or preparatory schools, where they have been little subject to the personal influence necessary to the formation of character. The freshman is in danger of becoming lazy, extravagant, indifferent to codes of honor, and vicious in habits. His choice of studies may be along lines of least

resistance. He is at a loss as to aim, the best use of his time and opportunities, how to avoid harmful influences and ways.

We may not altogether agree with the following opinion, but it is suggestive: "Another specialist must be constituted who shall search for the talents of each separate student, who shall train students to achieve ability during the whole period of college days, who shall do his work by laws which are classified for his system, by diagnosis of each student as a physician would diagnose a patient, and by a personal relationship which would show that he has a heart as well as a brain." This may be a too mechanical and close interference with the youthful soul. But the student is eager for wisdom and will listen to sympathetic advice. Better faculty organization for the use of personal direction, a larger interest of the alumni, a greater care of the home, a spiritual atmosphere which shall stimulate toward true ideals—these are the means to be used. In the college department of one great university, during one year, 5700 calls on the dean and professors from students and parents were recorded, and more than half of these were on matters outside of the curriculum. A faculty committee deals with the question of scholarship and the general record of the student. The student knows he has some one to whom to go, should he need and desire advice. This is typical of a movement extending in the colleges, and faculties everywhere are making efforts to meet their responsibility.

COLLEGE HOMES

In large colleges the provision for residence and for the social life of the student is more than an economic question. The large dormitory with little or no supervision is of the past. Leaving the students to seek their homes here and there, exposes them to many chances—

unsuitable conditions, lack of care and control and of healthful social life. The college home, not too large, with dining, reading, and common rooms, under the supervision of a man of character and influence, appears to be the ideal. The fraternities may provide not only residence and social life, but use an influence and care which now happily are becoming an interest of the national officers of many fraternity organizations. The fraternity house, enlarged and adapted, may be taken as a model for the college home. In part the fraternities represent a social need for which the college homes, open to all students, should provide. The question of ways and means is not an easy one for the state universities, since the taxpayers object to expenses for purposes of questionable value. As a hopeful indication, in one state the Federation of Labor urges the legislature to furnish homes at cheap rates for poor students in order to give a more nearly equal opportunity for a higher education. Clubhouses, one for men and one for women, provide a common meeting place for all students and are a necessary part of a complete scheme for the student community. Here may be fostered democratic feeling, healthful recreation, social acquaintance, and college spirit. One movement, meaning more than convenience and economy, is the founding of halls by religious denominations. These are not only college homes, but centers of moral and religious influence. This form of co-operation with state universities may be better than founding poorly equipped denominational colleges.

STUDENT ORGANIZATIONS AND ACTIVITIES

Volunteer organizations largely represent the spirit of the college and the ideals of the students. The "Cosmopolitan Clubs," found in Wisconsin, Illinois, Cornell, and many other institutions, stand for a fraternal

spirit toward foreign students, and the idea of international comity. In Michigan there are 176 associations, representing a great variety of interests—debate, music, church affiliation, and state groups. In Pennsylvania are found numerous national and state clubs. The use of many of these organizations is broadly social. A large value must be ascribed to interest in debate and in good literature. The intercollegiate debate, giving special training to a large number of candidates for the teams, is in a sense a revival of the work of the old debating societies, at least a partial substitute. In one of the smaller universities a group of students has formed a civics club to discuss social and political questions, and they publish a magazine containing able articles, and the results of investigations. This is more significant than a hundred other things that stand for modern college life and spirit, and is typical of the kind of interest that makes the ideal college.

We sometimes hark back to the good old days—the days when the reading of the classics, a serious view of life and its duties, a deep philosophical and religious interest, conversation that was earnest, noble aspirations and far visions, were supposed to be the marks of the true scholar—and wonder if those days were not essentially better. We recognize that out of the evolving present will come a new and perhaps a better learning and type of citizen. But have we the depth of feeling and the strength of purpose shown in Huxley's inexpressible longing for the highest and best in all things? Have we religious insight, love of music and art, joy in the great literature of ancient and modern times? Appreciative reading, which stimulates noble ambition, opens up far visions, gives perspective and proportion and relative values, broadens and strengthens the spirit, reveals great principles of life—this is a test by which the scholar and the college must be tried.

The alumni association has great possibilities for the general interests of the college and the welfare of the students. The usual activities are valuable—reunions, social goodwill, promotion of the financial affairs and the growth of the institution, a vertising, receiving and disseminating information. But the alumni association may serve a greater purpose. It may introduce new ideas, enlighten the students on their mistakes and failures and on the means of success during school and in real life. It may encourage good citizenship and interest in civic duties. Especially can fraternity members give a stimulus to every good custom and influence in their chapters. Of course all this implies organization, the devotion of groups of earnest graduates, and work by active committees—but the experiment will prove to be worth the cost.

Fraternities are often charged with poor scholarship, dissipation, prodigality, and an aristocratic spirit. Of course it is the duty of the fraternities to guard their freshmen, and use a daily care in directing their work and conduct. They should be distinctly helpful in all the affairs of the college. There is a movement by the national fraternity boards to improve the scholarship and general tone of their chapters. Professor Paulsen sees in the fraternity: training to live for the group and at the same time for oneself, to associate with the pleasant and the unpleasant, to compete with the superior and the unfriendly, to brave opinion, to practise functions of social life, to obey and command, to confer and decide, to make and apply laws, to adjust disputes, to deal with outside friends and foes. It is a preparatory school for public life, giving self-control and government and self-assurance.

In the Latin-American universities, as reported in a recent publication of the U. S. Bureau of Education, there is nothing like the Greek-letter fraternities—

everything is democratic. Each university has societies representing the different schools, as law and medicine, a university union composed of these societies, a federation of all the societies of all the universities of the particular country, and finally a Latin-American Student League embracing all the university unions. This League aims to include all the Americas. The local societies discuss such questions as cost of supplies, material conditions of student life, better lodging and food, and social opportunities. They organize public lectures on social and economic problems, night schools for workingmen, and conduct a propaganda against intemperance and tuberculosis. Each university has a general "University Center" with permanent headquarters; it publishes a student paper—a serious journal containing literary and scientific articles. An international meeting of Unions was held in 1908, when these topics were discussed: state and private universities; examinations; specialization in studies; courses and degrees; student participation in administration; athletics; problems of scholarship. Here is an ideal of the highest significance!

The much-discussed question of athletics is not wholly settled. Many evils have been eliminated, and progress has been made in all matters of business management, in regard for rules and for honor in sports, and in faculty control or co-operation. The objections to intercollegiate games are well summed up as follows: "Athletic contests attract undesirable students, divert the attention of the students from their proper work, lead to dissipating and gambling and extravagance, cultivate the mob spirit, lower honor and honesty, and corrupt even faculties and officials." On the contrary it is urged that athletics cultivates energy and courage, stirs the emotions to the depths, gives an objective interest—a cause in a sense ideal, in which selfish individuality is lost, provides a

safe vent for pent-up forces, thus acting as a kind of soul cathartic. To the objections offered above it may be answered: (1) That the reforms of late years limit the entrance of students for athletics only, (2) that scholarship standing is a condition for membership on teams, (3) that dissipation and gambling are evils which are bound to exist under any conditions, but which may be modified, (4) that opposed to the mob spirit is the cultivation of courtesy and fairness to opponents, (5) that athletics offers a great field on which to fight out the question of honor and honesty in all affairs. Faculties may take a stand against gross violations of rules and decorum and every form of abuse, limit the number of contests, require scholarship standards and honor in living up to agreements. I have known a comparatively small institution to take a firm attitude for clean athletics and, in face of resentful student and alumni sentiment, the customs of neighboring colleges, and the criticisms of the public, win at every point. Inter-class and inter-fraternity games may be encouraged. A greater variety of sports may be introduced. The inter-scholastic meet, which brings the high schools of the state together in a variety of contests is a popular and probably healthful form of athletic interest. Of course the great problem is healthful exercise for everybody and in some way this should be required. Physical examinations should be urged and defects noted by trainers and physicians. Students should be instructed in the best means of health, given a knowledge which they may carry through life. Ill health, often due to ignorance and indifference, may be a severe handicap in college and in later years.

SELF-GOVERNMENT

As a substitute for the paternalism of former days and in accord with the principles of freedom and self-control,

student responsibility is encouraged in progressive institutions. In California, Colorado, Wisconsin, for instance, a degree of self-government is in successful operation. Students possess more business ability and judicial wisdom than is usually ascribed to them. They profit by experience in management, and by striving for the ideal of clean politics in conduct of their community affairs. Early responsibility under guidance is the best method of forming character. Students may be given power, within certain limits, to control their debating and athletic interests and regulate many student organizations, financially and otherwise. In many instances they show themselves more capable than faculty committees. They may recommend discipline for violations of rules which are not easily discovered by the faculty, such as hazing, cheating, injury to property, and interference with the rights of citizens. They may take up constructive ideals of scholarship and of character and conduct. All this implies a student organization, a definition of power, a constitution and rules, officers and committees, and a wisely adjusted faculty representation. The honor system in examination may be mentioned here. Police measures are a poor substitute for the character that is self-guided in all matters of honor, although, in dealing with youth, "lead us not into temptation" is a prayer too often omitted. The honor system is the ideal and can be adopted when the college atmosphere is ideal, and the student body is ready and willing to take up the responsibility. To introduce the system without a period of spiritual preparation would prove a hopeless failure.

Moral influence and reason count first in maintaining right conduct. Petty interference and severe regulation are unnecessary and unwise, although faculties must find some way to limit harmful customs and excessive social functions, and may find it necessary to take a firm

stand against lawlessness and momentary outbreaks. Students are responsive to appeals to reason, justice, and decency, and may be brought to co-operate in all needful reforms.

RELIGIOUS INFLUENCE

Christianity is so wrought into our civilization that ignorance of its history, doctrines, ideals, and principle of universal goodwill would leave us strangers in the world of culture and in the field of modern social welfare. I look to the time when the Bible may be used freely in the schools as literature and as a guide of life—the sum of the richest and most ideal thought and experience of the human race, embodying Hebrew insight, and the spirit and maxims which when fully applied will save our civilization. The Bible is still used in the German schools, although the teaching is limited by state prescriptions, making a formality of what should be a vital force. But a voice is heard now and then calling for more freedom in religious instruction, freedom to teach the history, spirit, and principles of Christianity and their application to individual development and the progress of society.

In the state university the problem is a peculiar one. But the state university may teach the history of opinions and beliefs, the rise and decay of institutions, the value of Christian civilization. It may maintain or allow religious exercises, with voluntary attendance. The Christian Associations may arouse an interest in religious themes and sustain Bible study. The local churches may co-operate. Church organizations may establish homes for the comfort and spiritual welfare of their students. In Melbourne the Church of England, Presbyterians, Methodists, and Roman Catholics have established colleges about the university. They use the courses of the university and in some lines supplement its work. The

university of Toronto maintains a like co-operative relation. Similar movements in some states of America have proven valuable not only for the financial economy, but for efficiency and for religious influence. In the earlier history of the University of Colorado, more than twenty years ago, a movement, joined by prominent ministers of seven or eight great religious denominations, was started to establish an independent school of theology in close relation with the university; an organization was formed, a plan was marked out, and some lectures were given as a beginning of the practical work. The scheme contemplated a year of selected studies in the university curriculum, a year of co-operative work of all the denominations on historical, sociological, and other matters that did not involve doctrine, and a third year of differentiated study under the direction of each denomination. I sometimes wonder whether this was not a premature attempt at an ideal yet to be realized in the American universities. The colleges might unite to employ some mighty man with exceptional ethical power who should devote his entire time, in one institution after another, to teaching great conceptions of manhood. American life needs to be enriched by art, philosophy, and religion.

VIII

THE UNIVERSITY—FORM AND SPIRIT

DEFINITION ¹

A DEFINITION of the American University has been made by the Association of State Universities. This is the substance: an institution having a four-year college course based on a four-year high school—two years in continuation of the high school and two years looking toward the university; a graduate school based on the four-year college; one or more professional schools requiring two years of college for admission. The earlier completion of the college and of entrance to the university was more than suggested. This definition was merely tentative, applying to existing conditions, and is already regarded as antiquated. President Butler's definition, made several years ago, remains essentially right to-day: "Any institution where students, adequately trained by previous study of the liberal arts and sciences, are led into special fields of learning and research by teachers of high excellence and originality; and where, by the agency of libraries, museums, laboratories, and publications, knowledge is conserved, advanced, and disseminated."

In the reorganization proposed, the precise way in which the "telescoping" may be effected cannot be accurately foreseen, neither can a complete classification of functions as university or college be predetermined,

¹Cf. Appendix B, 1, 2.

and we must discuss progress in connection with present conditions. Colleges and universities are so related that it is difficult to draw hard and fast lines. By a close definition very few institutions are properly classed as universities, and very few will be included until there is a reorganization of the graduate school and earlier admission, and the college is eliminated wholly or in part. At present Columbia, where the graduate and professional schools predominate over the college in interest and numbers, Johns Hopkins, where the graduate and medical schools have constituted the university, and Clark, which has the "philosophical faculty," would be representatives. I believe that a clear definition by the universities and in the minds of the people is needed, and that much harm comes from a claim to functions which comparatively few institutions in the country can fulfil. A college is not a university; neither is the graduate school; nor, as I believe, from the standpoint of the ideal American university, the graduate and professional schools combined. A broader service of the graduate school, a closer relation between all the faculties, and a new spirit are essential. May we suggest that the "general faculty" should be a reaction among elements of the senior college, the graduate school, the English university, and the German university?

Are we not about ready for a genuine university? We have had a long experimental period during which the various elements of an educational system have been tested. We may conceive that the American university will have a faculty of the sciences and humanities in place of the graduate school and with larger functions; that beside this will be placed the professional schools and schools of applied science, and whatever additional schools or departments are required in the development of our varied industries and in our social progress; that it will combine teaching, research, and the applications

of science. It will differ from the English university in having more definite professional and technical schools; from the German in retaining more culture courses. Like the French it will emphasize citizenship; in full relationship with democracy, it will extend its service to all needs of society and state. With greater efficiency throughout the school system; the student will graduate from the college and enter the university at about the age of twenty. This is the time when the mind is eager and adaptable and is ready to take up specialized and constructive work. Merely absorbing knowledge for too long a period leaves the active and creative powers dwarfed. Something is wrong with a system that allows little development of power before twenty-three, and keeps the student in school until twenty-seven. Much is lost in time and in adaptation of methods to stages of growth.

Better organization does not mean undesirable standardizing. Johns Hopkins, Harvard, Missouri will give different emphasis to departments of learning, and vary in spirit and method according to their history and environment. Western universities have grown with the states in which they are located and have been more or less adapted to their needs. Universities of the Western Slope can relate themselves in ways to the history and problems of the Asiatic peoples. Medicine is well developed in one school, engineering in another, extension work in another. Perhaps migration of students, as in Germany, may become common in America when each institution develops superior work in some one department.

The state university, because of its organic relation to the state, has distinctive characteristics. It grows with the growth of the community, responds to the utilitarian demands of the people; to teaching and research it adds service to the high schools, to the state

government, and to the various industries. But it also represents the best ideals of the people and leads toward their realization. As contrasted with independent institutions, it has more equality and less exclusiveness; it has more of the modern spirit, copies Berlin rather than Oxford. It is charged that state universities are unduly subject to public opinion, as it is charged that private foundations are unduly influenced by a class, and that they do not freely discuss certain questions of political progress. A graduate school means little to the average taxpayer; legislatures do not provide readily for research. The people demand results and ignore the value of general principles which may prove later to have an untold worth. They may not be supposed to know the relation between pure science and the discovery of anæsthetics, the use of antitoxins, the improvement of agriculture, the invention of the dynamo, the skill of the engineer in constructing the Panama Canal and the service of medicine in the sanitation of the Canal Zone. Ultimately, we believe, the state university will create faith in essential culture, in research, and in the value of expert service in affairs of public administration and social betterment. The American university, state and private, at the present stage emphasizes immediate results and practical application more than research and discovery of principles. But power will develop in all higher departments of learning equal to the needs of the civilization now coming to its maturity and strength. It may be interesting to note that in the South American republics higher education is almost exclusively a state function, and that the professional schools and engineering are governmental administrative corporations as well as teaching bodies.

Scattering the parts of a university, which should form a well-organized whole, is not peculiar to America. In all countries special schools have sprung up to meet

new needs—schools of commerce, engineering, agriculture, forestry, veterinary surgery, military training—and some of these might well have been added to the universities. The use in common of courses and laboratories and libraries, the exchange of courtesies, the broadening of the view, and the mutual reaction between theory and practice would constitute a large sum of advantages. Separate technical schools are in danger of being limited and narrow; schools united in a university share a fund of ideas in common. Each of the four faculties in the German universities is given opportunity, freely used, of listening to lectures in other departments. The same practice could be extended to technological schools closely related to the university. "The University of London has become the most important institution for uniting, confederating, and co-ordinating all the institutions of the higher education of greater London." "The University of Paris is the central body in a group of higher institutions devoted to letters and science. The number of such schools under the minister of public instruction has been recently increased by institutions founded by private benefactions, namely, the *École Libre des Sciences Politiques*, the *Collège Libre des Sciences Sociales*, the *École des Hautes Études Sociales*, and the *École de Journalisme*, all founded within the decade by private benefactions." In twenty of the forty American states, which have state universities, the agricultural department is erected into a separate college. Thus the college lacks the broad spirit of the university, and the university lacks the practical influence of the college. Duplication of work, greater expense, harmful rivalry are other disadvantages. In the other twenty states the universities are maintained in their integrity, and they show that in union there is strength. In a few states, co-operation between the independent arts colleges and the normal schools on the one hand and

the university on the other is encouraged. Wisconsin, Missouri, and Virginia definitely recognize "junior colleges" in the educational system. The university admits students from the junior college with full credit, and many enter the professional schools or complete their college course at the university. In case of such students Columbia recommends to the home colleges the recognition of two years of professional study toward the bachelor's degree—the degree to be granted by the college.

America is not alone in studying university reform. In England the old institutions are asking themselves serious questions. These range from freedom from ecclesiastical influence to extension of public service. These institutions are awaking to ideas clearly grasped in America—helpful connection with the secondary schools, more complete recognition of science and of modern subjects generally, more definite vocational aims. They see the need of increased library facilities, improved teaching, and greater interest in research. Some recent reforms are noted in the 1913 Report of the U. S. Commissioner of Education. The last vestige of religious tests was abolished in Cambridge in 1913, and similar action has been attempted at Oxford. The modern English universities have largely increased their laboratory equipment and the funds for research and for study of local industries. Tutorial classes are conducted under the combined auspices of the older universities and the Worker's Educational Association. The recent university foundations are open to women on the same terms with men. In an address at Clark University at its twenty-fifth anniversary, President Hall incidentally summed up the demands of German students for progressive changes. These include first improvement in teaching—better methods, more efficient seminars, printed outlines of lectures, fresh matter in lectures

instead of repetition of published books, greater library facilities. They also ask for more options, more practical courses, and a freedom in choice of theses not limited by the claims of the professor for help in his investigations. They urge the need of dormitories, greater social opportunities, and closer contact with the professors. They demand less restraint on personal liberty. The Puritan ideal has its representatives, and they call for a reform of the corps and of the *mensur*.

I here quote different views of a university which have a suggestive value, necessarily in a condensed form:

The English university aims to develop character; the German to increase knowledge; the French to make enlightened and useful citizens; the American to combine the two aims of knowledge and citizenship.

There are three conceptions of a university: (1) As a group of technical schools; (2) as a place for discoveries in science and literature; (3) as a place for universal culture and preparation for citizenship. The Germans maintain the group of technical schools and are devoted to new discoveries. The French combine the system of technical schools with a wide range of knowledge fitting for citizenship. The English aim at discovery and general culture as the foundation of the good citizen. The early American college aimed at culture and citizenship, but the present universities combine the three purposes of specialization in technical schools, discovery, and citizenship.

From the first in the University of Berlin proficiency in some branch of scientific research was regarded as the principal requirement. The object was no longer the acquisition of encyclopædic learning or of dogmatic propositions, but the gaining of an independent grasp of scientific principles. The doctrine was upheld that scientific research can thrive only in full liberty. In 1808 the French universities were reorganized. The several faculties were separately constituted as special schools in which medical men, officials, judges, etc., received a purely professional education. Curricula and examinations were regulated by state authorities. Thus the highest educa-

tional institutions of France were based on a foundation of official regulations; in Germany the education of officials was entrusted to institutions given over to the free pursuit of knowledge.

A university is a group of professional schools, giving the best available preparation for each trade and profession.

The true functions of a great university are chiefly these three: (1) the highest mental and moral culture of its own students; (2) the advancement, by research and discovery, of science, scholarship, and philosophy; (3) the diffusion, as from a center of light and influence, of the benefits of a liberal, genial, and elevating culture over the whole nation, and even over all mankind.

The university of the future will be composed of three classes: men who have the genius for discovering truth, men who are especially adapted to imparting it to others, and men who are successful in showing how it may be applied to the problems of life.

The true university would be a place where each would gladly learn and gladly teach; open summer and winter night and day; a center in each community for the conservation of the best traditions and for the origination of the newest ideas, closely in touch with every forward movement of civic and national life; a home from which will go out, and to which will return, our leaders in every department of human activity.

Can there not be one university where the professor will have a study instead of an office; where the ideal set before the young instructor is something else than answering letters promptly and neatly on the typewriter; where men are weighed rather than counted; where efficiency and machinery are subordinated to the personality of great men, where scholarship and research are the aim, and where professors are paid for the value of their teaching, service, and research, and then set free to do their work how and when and where they can do it best?

The model for our medical schools, and for our schools of law, theology, and technology is the best specialized training, united with the highest culture and the freest research.

The expansion of the philosophical faculty in the German universities is noteworthy in this place. This faculty covers

the entire field of science, extending far beyond the range of a specialized profession. It offers professional training for secondary teachers, for specialists in chemistry, agriculture, forestry, and the political and economic sciences. Medical students here receive their education in natural science. Several universities have professors of pedagogics. The seminars in pedagogics emphasize the relation of philosophy and psychology to the science and art of education.

THE IDEAL¹

Some university ideals are presented under the following heads: (1) science and humanism, (2) student and teacher, (3) academic freedom, (4) creative power, (5) discovery of genius, (6) service.

Science and Humanism.—As an outcome of the startling condition of the world to-day, every problem of government, of society, of industry, of education will take on a new aspect. Two things appear certain: the civilized world will aim at greater efficiency in government organization and administration, in industry, and in securing social welfare—and to this end science and scientific methods will be employed. On the other hand there will be an insistent demand that the vast and tremendous forces of science shall be forever turned from human destruction and general devastation to the arts of peace and the constructive work of the world. Science will be the instrument of progress, but will no longer be permitted to stalk abroad like a soulless monster. Its methods will be employed in the entire sociological field. Science gives a sense of reality and strength. When the mind becomes lax and the ideas vague from a too long pursuit of literature and fancy, men turn to solid facts and stern logic. And pure science will have its place. Voices of warning are heard of the danger that specialization may defeat its own

¹ Cf. Appendix B, 1, 2.

ends by being too minute and narrow. Mathematics is needed to train and broaden students for all departments of study. The physicist has not the only claim to physics. The avocational side of life must be considered as well as the vocational—knowledge, enlightenment of mind, and largeness of soul. Turning to the humanities, we see them to be the complement of science. Exclusive devotion to facts and utilities atrophies a part of our nature. We feel sometimes like seeking some boundless contiguity of shade where strife, strenuousness, the whirl of machinery, and the strain of efficiency may never reach us more—a place wherein to live and enjoy and think. The appreciation of noble ideas and rich sentiments is a part of living. The art idea is necessary to idealize the material and the scientific. It makes a work of perfection in its kind of every industry, however common, and preserves vitality and elasticity of mind. It presents the Platonic conception of perfect types of all things, which may be applied on the farm or in the shop. Humanism with its “feeling for the past,” its long perspective, gives a philosophy for the distractions in which we live, power to judge wisely the conditions of the present, pause and reflection before ill-considered action. Reflection and self-control and wise choice of values are needs, not only of American life, but are universal needs. To the teachings of humanism must be added an all-powerful idea of rational and peaceful solution of all our problems, national and international, as well as individual. Science and humanism go together; combined they constitute true culture. The coming university will still represent both. By the side of discovery of principles and invention in the realm of science, instruction in literature and pure science will retain a place for those who have a sense of their value, for the men who will become the poets, statesmen, reformers, and leaders in thought.

Student and Teacher.—The mediæval university was a *societas magistrorum et discipulorum*, teachers and learners associated together for the acquisition of knowledge and the discovery of new truth. I can but feel this is an ideal to be revived in the coming university. The preceptorial system and the demand for vital methods point that way. The personal contact with teachers of great influence was the strength of the early colleges, and in them were educated men who became famous in the republic. The new university will receive students at the height of their enthusiasm and ambition before they are made apathetic by a too long period of aimless study. The professor, imbued with the spirit of discovery and retaining his youth and zeal, will be more than the formal guide and teacher. The lecture, library, laboratory, and conference will invite work, require initiative, make power, and create an easy and sympathetic relation between master and disciple.

Discovery of Genius.—In ancient Athens the young scholar sought the uncommon man from whom to gain instruction in philosophy. Darwin “wasted” five years at Edinburgh and Cambridge, but later found his inspiration as he “walked the fields with Henslow and in him found the university.” In Germany to-day students migrate to seek the strongest men in a given department of study, a custom which will be common in America when the universities develop here and there departments of unusual strength. Seeking the uncommon student is more important. To discover the men of superior ability, who have an ambition for large things, who may become great scholars, thinkers, leaders, inventors in the material or spiritual realm—this may be a highest service of the teacher. Such men are needed to apply science in the field of politics and popular sentiment, to study conditions of industrial workers, to raise the standards of diplomacy, to give character to journalism. I some-

times question whether there should not be an open door for the special student who has an idea but is impatient of standards of admission, formalities, and restraints; he may prove to be a constructive thinker. I sometimes wonder whether the graduate departments of study should not provide a place where genius may fructify in a genial atmosphere. Unproductive leisure is justly condemned, but a leisure in which the power of thought is growing may be richly fruitful. President Gilman is here quoted: "It may be worth while to inquire whether the gentle, inspiring, peaceful influences of literary quietism, under which Lowell and his contemporaries, Emerson, Longfellow, Ticknor, Hawthorne, Motley, and Prescott, and their kinsmen of the pen, grew up, are known to this generation, and whether, in our cultivation of other fine arts, we are not forgetting the noble art of leisure."

Academic Freedom.—The public is becoming keenly sensitive to appearances of interference with freedom of teaching. This comment recently found place in the public press. "The public has every right to know whether its greatest teaching institution is free to seek the truth and proclaim it without fear, or whether it is compelled to suppress every opinion on economics or politics that is for the moment distasteful to trustees whose sole responsibility is discharged when they appoint able and fearless men to its faculties and attend to the business details of university management. There is a conflict between political reaction and political progress, between intellectual repression and freedom of speech, between a plutocracy fully intrenched and a democracy not yet fully conscious of itself. The trustees (in the case under discussion) are determined to penalize instead of encourage, on the part of the teaching staff, that continual and fearless sifting and winnowing by which alone the truth can be found." There is no such thing as

absolute freedom, nor should there be. Only the truth is to be spoken, but it is not to be spoken at all times. Sometimes alleged interference with thought is simply an objection to indiscreet expression and bad taste and unwise judgment which unfit a man for the position of teacher. Mere opinions about religious or political institutions which might deeply offend the sense of the community may be distributed with prudence and good taste. If one lets the light of general principles shine, it will gradually overcome the darkness. Even in America we could hardly find a place for an anarchist, pledged to overthrow all existing institutions, in a professor's chair. Reform of the existing order is different from a desire to overthrow it. But probably there is less subserviency to wealth in endowed institutions than is supposed, and less consideration of possible political offense in the state-supported than is commonly believed. So far as scientific facts are demonstrated they may be fearlessly published. In pure and applied science, in language and literature of course there is no limitation, but problems may arise in discussion of social and economic questions and of religious and political beliefs. But the means of rational progress and forms of constructive work must be freely discussed. Even here the scholar must break through into new fields and assert the right of the explorer, else, so far as university leadership is concerned, progress would become nil. Occasional offence to the institutions of the state and the customs of the people must appear. The university is responsible for pioneer thought and must adhere to facts, and, like Huxley, let them lead where they will.

Creative Power.—The value of pure science is not readily understood. The relation between the discoveries of Newton and modern mechanics or the use of the principles of chemistry in medicine, agriculture and industry, except to the few, is unknown. We are in process

of material development and have not a general interest in the higher scientific and philosophic thought. We aim at facts and direct presentation of truth. In America the future of research will be determined in part by the material demands and by our political and social aims. Since investigation is now consciously directed toward our own concrete problems, it will be more distinctly original and national. The university departments, and especially the technical schools, relate research to the technical fields. Science as applied to every form of human welfare is emphasized. Practical investigations are carried on by the schools in connection with the city, the government, and various industries; by the city or the institutions founded by it; by privately supported laboratories; by private industries. There is an increasing demand for governmental investigation and for expert state service. Then there are the bureaus at Washington, the field work, the experiment stations. The government carries on work in meteorology, makes national surveys of every kind, compiles the census, conducts expeditions, creates commissions on industrial relations. All these things serve to stimulate the search for principles; the co-operation of practice with theory will grow to the advantage of both pure and applied science. The university must stand for the investigation of foundation principles, whether in the field of science or of the universal truths that are broadly applicable to human nature. University research primarily deals with general theory and aims at discoveries whose use may not be obvious or immediate. General principles, abstract truths have manifold applications. The unrelated facts which have accumulated in the late decades now need to be correlated and interpreted by men of comprehensive power—and this will increasingly have the support of the public, of practical science, and of industry. The recognition of the higher func-

tions of a university is rapidly coming.¹ In addition to the published results of many practical studies, we may find even in state universities whose work is open to popular criticism, research in such subjects as semitics, archæology, philosophy, astronomy, and in the modern humanistic subjects of politics, religion, and art. There is the greatest work ahead in psychology, philosophy, sociology, and economics, for they mean no less than the gradual reorganization of society. Pursued in truth and fearlessness discoveries in these lines will give a spirit to the university not known since Plato and Aristotle. It is in the surroundings of the university, free from the urgency of industry, that research may be calmly pursued. The university will be judged as it increases knowledge and power. The professor has no place there unless he is in some way an originator, has the impulse to investigate and discover. The purpose of the university is not "to drill, but to create." Aside from the fruitful products, the energy aroused in the students is a vast power for progress in the nation. Interest in pure science is a peculiar need of America, not merely for the possible practical returns, but as a corrective

¹ "There are tens of thousands who associate research with finding and making available truths of incalculable benefit to all humanity, as well as to Wisconsin. So far reaching have been the visible and measurable benefits from research when applied to Wisconsin's agricultural problems that they are cited by professors in the field of literature and philosophy to explain the value of research in other fields directed to intellectual and social advancement. Research has led to much legislating and reorganizing in the direction of principles declared by the university and its alumni to be 'scientific principles of taxation and government supervision.' The rest of the country has been convinced by Wisconsin's demonstration, and is to-day doing its best to secure university and college help in understanding and solving government and social problems, and in using such problems for teaching purposes. Research for service, research for advancement of knowledge, research for inspiration, research as a touchstone of teaching efficiency and a stepping stone to academic preferment are in the air."—*Survey of the University of Wisconsin*.

to the struggle for material success, and as an expressive proof of the value of leisure and thought. There is danger of standardizing discovery, of measuring it by hours and immediate results. Research, like literary genius, is dependent on conditions, moods, and visions. The product in power of our present graduate schools is disappointing. The thesis of the average Ph.D., here and abroad, hardly measures up to the standard expected by the interested layman. It is usually a work of immaturity, a clerical performance dealing with trivial and inconsequent phases of a subject, revealing no original thought, and drawing no valuable conclusions.¹ Mr. Slosson in his book on Great American Universities has ideas on this subject forcibly expressed:

In scientific theses there is an attempt at originality; in the literary departments there is not even the pretence. The candidate for honors in literature might, for instance, be required to study a thousand volumes of new poetry and extract valuable elements. The candidate in biology might originate and propagate a new species. The candidate in chemistry must discover a new law, work out a puzzling reaction, or make a new lot of compounds. The engineer must be able to construct a bridge; the architect a building or an arch. Quoting literally: "It seems to me that it would be only fair to require

¹ "In every institution doing research work there should be a 'general research board' whose duty it would be to organize the general policy of the institution in the matter of research, to bring about as much co-operation as possible between the departments, to correlate as much as possible research work going on in different sciences, to pass on the expediency of undertaking any given project."—*Bulletin Five, Carnegie Foundation*, p. 32.

"Different theses for doctor of philosophy were found by the survey (of one university) to be careless in workmanship, inaccurate in quotation and references, not scholarly in presentation, unoriginal, and in two of eight cases taken largely from other works without due credit. Yet two or three examiners who certify to the scholarship of the doctors of philosophy are not expected to read the doctor's thesis; the supervising professor does not test the thesis for accuracy; the dean certifies to form only; the president neither examines nor tests research by student or faculty member."

of every candidate for the Ph.D. in English literature the writing of a successful novel, a volume of good essays, a poem of distinct merit, an acceptable play, or some contribution to belles-lettres that will meet with the approval of the judicious, if not of the public. Even the requirement that the candidate should have a ghost story accepted by 'The Black Cat' or a feature page by a Sunday newspaper would serve to weed out a considerable portion of that teeming department."

Service.—The ideal of service has become dominant in school and university. Of course the potency of service lies in the scholarship, power, and character developed in the university which, brought into use, will elevate the standards of every calling. Graduates are likely to represent, not only higher efficiency and better ethics in the professions, but values greater than business success; they are of the forces that raise the character of the nation. Scientific experts, wise judges, intelligent officials, great teachers, men appreciative of art and all that is best in life are the products of learning. If, judged by the present demands, graduates in the past have fallen short of their opportunities, the new spirit of the university will inspire a better sense of civic duty. Turning from the graduate to the faculty, the teacher of the future will relate himself to democracy and to progress. But, he, the man of ideas, has limitations as a propagandist and a man of action. He may impart sound principles of government and of economic policy, but will hardly be an active politician. "The professor furnishes the ideas, the politician the reality." Perhaps the man of reality and the man of theory are most useful in their somewhat exclusive spheres. But we are to consider more especially the expert service furnished by the various university departments. The state university naturally extends its influence to the chief governmental, industrial, social, and educational in-

terests.¹ It must needs meet the demands of modern society, rather than be governed by traditions handed down from other ages and ill adapted to the present. Some believe it shou'd free'y discuss labor conditions, corporation abuses, newspaper ethics, and even political principles. However, there are dangers, not only from the

¹ Michigan, which has been conservative in adopting some of the new movements, reports the following forms of the extension of its work, by which it reaches more than 100,000 people every year without additional appropriations. They include public health, engineering extension, a municipal reference bureau of information, library extension, public schools, museum extension, extension lectures. Yearly 11,000 are registered at the university hospitals; there is a Pasteur institute for treatment of hydrophobia; the dental college gives 5,000 free treatments yearly. The university maintains municipal, highway, and sanitary laboratories for testing materials in municipal and highway work and for information regarding the treatment of filtration and sewage. Problems of municipal administration are studied in co-operation with city governments. The library loans books to outside communities and gives expert assistance in organizing libraries. In the museum department are studied the economic importance of certain animal forms, conservation of valuable species, the fauna of particular regions; collections are loaned. The university has a teachers' appointment bureau; it helps plan, organize, and make school surveys. It gives 350 extension lectures annually, reaching 150 communities and 80,000 people.

The following is from Louis E. Reber, University of Wisconsin: "In addition to correspondence study, the following departments of work are established as legitimate elements of university extension: debating and public discussion, which includes a package library service maintained as a strictly up-to-date record of the more important local, state, and national issues of the day, and which fosters the formation of clubs and societies for study of and debate on public questions and the spread of public intelligence on matters affecting social and civic progress; a department of instruction by lectures, which secures to the smaller communities of the state advantages similar to those usually available only to the larger cities, primarily educational in aim, but using the lyceum method by which musical and dramatic entertainments of excellent quality are included in its offerings; and a welfare department, comprising many forms of suggestive and constructive helpfulness along the lines of community promotion, such as the community survey and the community institute and exhibits based upon the survey, municipal aid whereby the smaller towns may secure technical instruction and service upon problems of government, social-

reactions of democracy, but possibly of too much paternalism in extension activity. "The reaction in Wisconsin, involving questions of university control and academic freedom, are probably mixed with a passing reaction from extensive, university-led reform." The municipal university, like Cincinnati, has a peculiar

center stimulation, health instruction and campaigns, education and entertainment by means of lantern slides and motion pictures, promotion of interest in community music, short courses or conferences adapted to the needs of persons engaged in institutional or volunteer philanthropies. Research, by which the sum of knowledge has been so vastly increased, is one of the services the university offers to the world. Results of experiments in agriculture and engineering; of laboratory work in every field science; of modern conclusions and observations in economics and sociology—these and others of untold value, when applied, are frequently long in reaching beyond the walls of the university. In some fields useful discoveries and conclusions have been accumulating for years, but it is only within the past decade that the obligation of educational agencies to interpret and spread these results has been fully recognized."

The Massachusetts Board of Education in its 1914 report makes recommendations for the "creation of an agency to promote extension teaching and the further co-operation of existing institutions of learning with public administrative agencies." It suggests a non-teaching organization charged with the following duties: "To conduct university extension courses and correspondence courses, to administer a system of state scholarships, to promote the training of secondary-school teachers and of school administrators and supervisors, to provide for organized co-operation between higher institutions of learning in Massachusetts on the one hand, and the state and municipal departments on the other, and to secure proper articulation of high school and college by organizing and putting into effect plans whereby the above results may be secured through co-operation with existing colleges and universities."

The New York Training School for Community Center Workers has just been founded. "The community center, operating at the junction between public education, public recreation, and social service, has intimate relations with extension teaching, with the public health movement and social hygiene, with the problems of social insurance and of sickness insurance. It is a necessary means to citizenship training and to the broader education in those issues of politics which transcend partisan limits. It aids in uniting the regular school work with community life, in line with the principle of the Gary schools. It is an approach to the labor problem, to the problem of unemployment, and to city planning."

function. The relation between it and every city department and every community interest is intimate. It becomes the organ of the city. It will help the schools; it will have a connection with museums, hospitals, and societies of learning and culture, and with the health and the engineering departments of the city government. It will open its laboratories to the city, and its museums, libraries, and lecture courses to the public. The hospitals, engineering plants, art collections, etc., of the city will be made serviceable to the students. Municipal universities are maintained in Cincinnati, Louisville, Akron, and Toledo; New York and Charleston have city colleges. The University of Frankfort, Germany, was recently inaugurated. Eight or ten other cities have done something toward establishing municipal universities or are aiming in that direction. They combine the technical work of the Hochschule and the academic work of the regular university. The University of Frankfort started as a federation of nine city institutions. The independent city university has a less intimate connection with the community, but it has great opportunities for service. Its laboratories are used by the city for scientific tests, and its buildings as meeting places for various organizations or as permanent homes for learned societies. Extension classes are conducted in the interest of the citizens. Its library serves a public need. It maintains relations with various institutions. One writer suggests that the university should influence the rich to employ good architecture in building costly houses, to offer the use of their books and pictures to appreciative scholars, to study the best form of industrial enterprise, and to give with intelligent discrimination and only to worthy and useful causes. It may be of interest to refer to the standards set up for the Wharton School of Finance by its founder: There should be impressed upon the students the immorality

of winning money instead of earning it; the importance of fidelity to trusts, the necessity of punishing frauds, the fundamental idea of the integrity of the nation. There are many things implied by the spirit of service. While not entirely pertinent here, we may refer to co-operation within the university and between universities. It is asserted that there is not a common language in a university faculty, or community of ideas, so much is the degree of specialization. One university has inaugurated symposia for exchange of ideas to broaden the view of each department. The National Association of State Universities, and the Association of American Universities are doing something to diminish rivalry and encourage a mutually helpful attitude between institutions. In the name of scholarship, the German custom of student migration might be established to advantage in America.

Service begets confidence and brings returns in the co-operation and the contributions of the wealthy, and in funds from legislatures. It is becoming possible to be entirely frank with the people, tell the whole story of the institution's needs and the value of its service to society. For instance a state university, going before the legislature for medical support, should state boldly that the cost will be great; that high standards will reduce the number of students; that research may not give immediate results; but that highly trained physicians, the discoveries of medical science, the protection of public health repay many fold the large investment.

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IX

THE UNIVERSITY—ORGANIZATION

THE GENERAL FACULTY

IN describing the faculty of science and letters we necessarily repeat the thought of some preceding paragraphs. Earlier admission to the university would materially modify and extend the functions of the present graduate school, and would greatly increase the number of students. To meet the modern need the courses in the general faculty would include the classics with the emphasis on the literature rather than the language; economic and sociological studies presented in the humanistic spirit; pure science, including discovery of principles; and the problems of education. Here would be the place for men of large vision, whether looking toward individual culture, the field of letters, statesmanship, research, teaching of science, or study of society. For the majority, special schools, departments, or groups would be required—those to whom learning for learning's sake or for general discipline and harmonious growth would not appeal. There are definite directions for the development of knowledge determined in part by well-known needs of society, and it is the business of the graduate school to see that investigation is pursued in the most fertile fields and to discover the purpose and adaptation of the student and help him find his place. Is there a degree of truth in the charge that in the present graduate school may still be found

the methods of the schools; that standards, degrees, formal research, the scholastic traditions, are still dominant; that in it are found too many men insufficiently prepared, lacking talent, void of aspiration, seeking degrees for their commercial value? Is it possible that it might be a place for constructive work with the abundant material of knowledge, for play of imagination, enthusiasm, creative power—a place for real fellowship of eager minds pursuing the paths of knowledge in freedom, a fellowship shared in common by teachers and students?

Humanism has been too much the study of language to the neglect of literature. Whether we rejoice or grieve at the revolt from the classics, we must accept the fact. Knowledge of ancient literature in translation and of modern classics in English, the power to interpret the best thought and to produce something of value are the chief aims. The higher study of literature sometimes goes all astray. Petty criticism, little clerical tabulations of facts in the writings or lives of authors are no substitute for insight, power, and inspiration. "Fortunate would it be if in every seat of learning such a living teacher could be found as a Wordsworth, a Tennyson, a Browning, an Arnold, or a Lowell." To poetry and art must be added the philosophy which presents a theory of the world and life. Science alone can never give a comprehensive world view or offer a hypothesis to explain human nature.

Then come the studies which have to do with man's political, social, and industrial condition, presenting questions not alone of man's body, but of his soul, of community ethics, and humane sentiments. These call for unlimited scientific investigation and application of principles—a field of vast area and complex paths. For practical and ideal reasons psychology is classed with this group. We have psychology hyphenated with

physiology, physics, therapy, education, advertising, abnormality, legal evidence, business efficiency, and what not. These applications will have more or less value, to be proven. Psychology adds to the knowledge needed by the student of society and by leaders of reform, and is especially valuable in study of the principles of education. There is still a practical psychology of the soul, based on subjective facts and experience, related to character, and constituting the foundation for a possible idealistic philosophy.

The inductive logic and scientific knowledge are cultural. The methods of science are indispensable in investigating man in his social and industrial relations. But we are now speaking of physical science. If there is anything the people can afford to pay for, it is the discovery of principles which have unlimited possibilities of application. Professor Cattell estimates that the price of sugar to-day is one-fifth as much as a hundred years ago, a fact due to the applications of science in chemistry, agriculture, and transportation; that the saving, due to the reduction in price, for a year or two in a single country would pay for all the higher education and research from Salerno to the present.¹ Gov-

¹ Here are enumerated some of the results of the applications of scientific principles, a list made up from articles in "Science": Invention of the dynamo and motor; safe explosives; improvement of steel; electric smelting; radio-activity; oxidation of nitrogen; use of mechanical principles in great engineering enterprises; progress of medicine through chemistry and other sciences; improvement of agriculture through chemistry; extraction of metals from ores; derivatives from coal tar; mineral pigments; synthesis of indigo; perfumes; starch manufacture; manufacture of acids; synthetic medicines; sera; physiological action of drugs; discovery of ether. Some broader discoveries to be made are mentioned: use in industries of by-products which are now going to waste; the causes and essential nature of organic evolution now requiring a re-examination; the dominating force in the advancing line of life.

"From what California has done toward maintaining the Lick Observatory through a considerable term of years, and is now doing

ernment is becoming a matter of scientific knowledge combined with administrative efficiency, and the engineering skill and sanitary service employed on the Panama Canal under government direction are cited as illustrations of the results of this co-operation. "Progress is a matter of scientific discovery and applications." There is danger that the applications of science may minimize the importance of the principles, that in the upbuilding of scientific industry the foundation may be neglected. Pure science is of infinite value to the manufacturer, and its promotion in every way is of large consequence to the development of the true university in America. We welcome a proposed programme for the National Academy of Science, which includes the advancement of pure research and the annual publication in a volume of Proceedings of significant discoveries.

"The science of education is the foundation of our civilization." The sociologist has not made a beginning of stating his problem in terms of education, and educators are only beginning to adapt methods to a social aim. Tradition still plays a large part in education. Analysis of our institutions, modern adaptations of matter

for the Scripps Institution for Biological Research, the conclusion seems justified that the state is definitely committed to the principle of state aid to scientific research, even though such research has no direct and primary industrial aims. . . . About the most telling criterion of success of popular government will be the extent to which it contributes to the highest development, spiritual and physical, of the naturally best endowed persons who live under and who participate in such government."—*Article in Science*, Aug. 20, 1915.

"While the foundations of the sciences have, for the most part, been laid under the auspices of the universities and the special research institutions, it is usually the combination of men of science and successful men of affairs which makes the sciences useful to the people in general, and therefore great factors in the advancement of civilization. It is a fortunate fact that there are Stephenson and Fultons, Edisons and Marconis, as well as Newtons and Lapolaces, Darwins and Helmholtzes."—*W. W. Campbell, Address at the A.A.A.S. Meeting*, 1915.

and method, testing of results are the great means of reconstruction. The university should have the highest function of discovery and influence in this fundamental science.¹ It should substitute for superficial pedagogy and useless processes the masters of thought in the literature revealing the profoundest insights into the human mind and soul.

THEOLOGY

The school of theology, found in French, English, German, and some endowed American universities, since it was so prominent at the university beginnings and has such a historical and present-day significance, must receive mention. As an evidence of the broadening spirit of the university, a few years ago the Protestant theological faculty (now suppressed) of the University of Paris invited the Catholics to form a faculty in the university. An orthodox theological school was recently associated with Harvard. The Ann Arbor School of Religion, conducted by the professor of philosophy in the university, but having no official relation to the university, is noteworthy. Religious foundations, especially halls for the care of students, are connected with many state universities. Reference has already been made to the movement in Colorado, about the year 1893, when leading members of eight great religious denominations planned a union school of theology to be located at the seat of the state university in friendly co-operation

¹ An examination of sixteen institutions by Professor Walcott of Hamline University shows that 68 per cent. of those who graduated and then obtained the doctor's degree have been or are engaged in college or university work. The average number of college graduates who obtain the Ph.D. degree is 1 in 22. Of the whole number mentioned in *Who's Who*, 50 per cent. are college graduates. Those who take the Ph.D. degree are more likely to attain prominence. Considering those who have the doctorate, the ratio is 1 in 3 for mention in *Who's Who* and *American Men of Science* and 1 in 2 for both books combined.

with that institution. The failure of the plan was due partly to financial reasons, and perhaps the movement was premature. The time may come when state universities will have, at least in close affiliation, faculties of religion, devoted to truth, ideals, and humanity, and teaching the history of religion and of Christianity, and the application of Christian principles to the saving of our civilization.

Admission to theological schools in the United States is usually based on the four-year college although provision is made for special students. The usual course is three years, but a year is sometimes saved either in college or in the school, by the "combined course." The elective or the group system, now generally adopted for some part of the curriculum, allows specialization for particular fields of future service. In 1910 the Commission on a Pre-Theological Course, appointed by the Religious Education Association, reported. Two groups of selected collegiate studies were recommended—one leading toward practical efficiency, the other toward the more technically theological efficiency. The first group includes literary expression, languages, natural science, social science, philosophy. Thus it seems that theological education is being modernized, both in spirit and in method, and we may look forward to new theological insights, fresh visions, and a revival of strength and influence in the spiritual realm through university schools of religion.

LAW

It is said that law is the least progressive of the sciences. Precedent, maxims of the common law, codes, the conservative function of the judicial side of the government make it resistant to change. The legal system has not adapted itself to the evolution in industrial, business, and social conditions. But the new economics and

political science, the criticisms of the court's delays, the objections to the law-making function of the courts, the proposed use of the referendum when the people disapprove decisions based on principles and class privileges which are no longer believed to be just, all show that legal conservatism is encountering a new spirit.¹ Medicine is strong in discovery and bold in progress. Theology is becoming more liberal and scientific, and law must encourage a more progressive attitude—look toward better government, better society, surer justice to all classes, wise legislation, reform of court procedure.²

The curriculum is criticised as producing an "un-philosophic, narrow, and legalistic attitude toward the law." Some universities are offering broader courses that, to complete entire, would require four to six years. For instance Michigan gives opportunity for study of the history of law, continental legal philosophies, Roman law, public international law, theory of practice and legislation. Many stronger schools

¹ Cf. p. 124.

² Herewith, I believe, however, that the two great problems are revealed whose solution devolves upon American jurisprudence: the creation of a scientific system of the common law, and a reform of the current law in the direction of that movement which is becoming more and more pronounced among the people of the United States in favor of a simplification, a greater efficiency and improvement, of substantive law as well as of civil and criminal procedure. Such a reform will, of course, not be produced by statutory decree alone. In my opinion this goal can be reached only through long and fruitful labor on the part of all elements of American legal life, the judges, the attorneys, the university law schools, and the legal scholars of the country. . . . It seems to me, accordingly, that if the American university law schools should adopt the policy of extending the course, and above all of deepening it on the side of strictly theoretical legal science and comparative law, so as to try to reveal to the younger generation in the law schools the true problems of the common law and of modern legal development in general, this policy . . . may be expected, despite all skepticism, to inaugurate a new era in the development of Anglo-American law and of its science."—*Bulletin Eight, Carnegie Foundation*, pp. 63, 65.

regularly teach administrative law and private international law. Extending the course to four years is under discussion. It is argued on the ground that the body of statutory law has greatly expanded, there are new problems in dealing for instance with public corporations and utilities, in general the requirements of modern business and legal conditions have greatly increased, and there is a consequent need of abler and better-equipped practitioners. In Latin America, as shown in Mr. Brandon's recent report previously referred to, representative courses in law are six years. The curriculum is broad in scope. The history and philosophy of the law, and social and political institutions are studied. Hence it is both a school of culture and of professional preparation. It trains officials, legislators, diplomats, consuls, and leaders. Graduates are not only intelligent regarding problems of progress, but have the attitude of conservative reform. South American schools, at least some of them, require of the candidate an apprenticeship or even experience in the practice of his profession before receiving the degree. Legal education in England is summed up as "without form and void." The period of formal instruction is brief and there are no uniform preliminary requirements. Oxford and Cambridge emphasize the law of the past and their courses are little sought by those aiming at a practical legal education. Training in a law office is favored. As a consequence there are not more than two thousand law students in the universities and the Inns of Court. The course in the German universities is both scientific and practical. It includes political science, Roman law, philosophy of law, comparative jurisprudence, international law, and legal history, general and special. The student usually takes courses in the philosophical faculty in sociology, economics, logic and philosophy. Preparation for the bench differs from that for legal

practice. The French student who aims to become an *avocat* enters the university from the secondary school as in Germany. The studies include Roman law, history of French civil and constitutional law, political economy, the civil code, criminal, administrative and international law, and civil procedure. The method of teaching in the United States is not a settled question and a plea is made for a "more systematic legal education—a curriculum that should scientifically reduce the body of Law to its elements, to be followed by an instruction elementary and systematic."

Two years of college in preparation for admission is becoming the aim of the progressive schools of law.¹ A few schools require three or even four years. The usual course is three years, although a fourth year leading to a higher degree is offered by several schools. The "combined course" makes it possible to receive the two degrees in six years. Allowing credit toward the law degree for certain studies in other university departments, such as those of social science, commerce, business administration, broadens the scope of legal education. There is no reason why jurisprudence should not take its place with the other university departments in dignity and influence, and give a broad preparation, not only for professional practice, but for a large view of the state, society, justice, and legal reform.

ENGINEERING

It is not our purpose to enter upon a study of the separate schools of the university, but to consider their place in the whole university scheme and the elements of progress. Within recent years the engineering schools generally have been made of college grade. The next step, already taken here and there, is to make them of uni-

¹ Cf. Appendix B, 4, sec. 2.

versity grade, based on two years of college. The movement appears to be wise, because the engineering student requires preliminary mathematics and physics and needs a broader foundation of culture for the reason that the special demand of the engineering curriculum shuts out liberal studies. Certainly either the pre-engineering studies must be increased or the course must be lengthened, perhaps both.¹ Everywhere engineering courses are overcrowded. This is partly a necessity in order to cover a large field, partly a matter of wrong theory.² The temptation is great to cover the whole ground minutely to the loss of definite knowledge of essentials. Power to discover and apply is more important than excess of mechanical drill. If the main lines are pur-

¹ Cf. Appendix B, 4, sec. 3.

² "Allusion has been made to the growing sentiment in favor of the prescribed and carefully co-ordinated course of study as a foundation both for general culture and for diversified specialization. The recent application of this idea in the field of engineering education, with certain modifications due to the special demands of the profession, is interesting in this connection. The training of the mechanical specialist, the engineer ready to earn his livelihood by the practice of his profession, is in certain institutions being relegated to the graduate school, or at least to the latter part of the baccalaureate course. The undergraduate course, at least for the earlier years, is devoted to general preparation in the sciences fundamental to all branches of engineering and in other subjects held to be essential to a liberal education. Thus the undergraduate course in engineering loses its strictly professional cast. It becomes one solution of the problem of general education. In the engineering department of Johns Hopkins University for the first three years the programme of studies is uniform for all students. Specialization in mechanical, civil, electrical engineering, etc., occurs only in the last year of the course. While the parent colleges have run to unlimited or only slightly hampered election, the engineering schools have followed the same impulse and have run to minute specialization. The subdivision and insulation of engineering courses has now proceeded altogether too far. Engineering schools must in the future return to somewhere near the point whence they and the arts colleges set out. They must find a programme which will educate the man. The development of the specialist may and should be left to the graduate school or to experience."—*Report, 1914, of U. S. Com. of Ed.*, p. 188.

sued, much of the endless detail may be left to the ingenuity of the student in face of practical problems.¹

MEDICINE

The following data regarding medical education in this country are useful as a basis of later comment. From 1906 to 1913 the number of medical schools was reduced from 162 to 106. Since 1904, 85 have been closed and 24 new ones organized. In 1913 the Council on Medical Education of the American Medical Association, in co-operation with the Association of American Medical Colleges, confirmed these standards, which remain substantially the same: requirement of one or two years of college for admission; a year each of physics, chemistry, biology, and French or German—college grade; a medical course of four years with a recommended additional interne year. Six medical schools now require the fifth year for the M.D. degree. Since 1910 six full-time professors have been the minimum. Forty medical schools have now adopted the standard of at least two years of preparation in college; 43 have adopted the

¹ Dr. C. R. Mann, now conducting the Carnegie Foundation Study of Engineering Education for the Joint Committee of the National Engineering Societies, gives in recent papers some statements of progress. Replies from many engineers to a circular letter show that (1) the schools are strong in imparting technical knowledge, (2) the schools are neutral in their effect upon the personal characteristics of the students, (3) the schools are weak in making the proper connections between the school and the world's work. The ideals for the school are (1) the development of character, self-reliance, independence, initiative, judgment, industry; (2) the imparting of technical knowledge and power of scientific analysis; (3) the training in the application of theory to practice, in business sense, and in power of expression. The training in English is criticised, the lack of business sense, over-specialization, and lack of breadth of view—men of broader social outlook make the larger plan and then the engineers do the work of technical construction. Fifty per cent. of the entrants to the engineering schools are eliminated before graduation—an enormous waste both for the student and the schools.

one-year requirement, and 7 of these have announced the requirement of two years. In 1915, as ranked by the American Medical Association, there were 66 medical schools in Class A, 17 in Class B, and 12 in Class C. A few medical schools maintain the four-year entrance standard. But Harvard recently voted to accept as regular students those who have completed two years of work in a high-rank college or scientific school, provided they have stood in the upper third of their class and have taken one year in physics, biology, general chemistry and organic chemistry, and have a reading knowledge of German or French. In the year 1911-12, 60 medical schools were conducting research. Minnesota, Rush, Stanford, Vermont and Northwestern now require or offer a five-year course, including the interne year. The state of Pennsylvania by law demands a year's internship in a hospital. In very recent years there has been great improvement in matter of buildings, curriculum, laboratory courses, equipment, number of full-time teachers, teaching hospitals, graduate instruction, courses for intending health officers, and research. The present tendencies are toward better clinical facilities, especially in teaching hospitals having regular professors on the attending staff. Many hospitals are seeking closer relations with medical schools, due in part to the growing conviction that care of patients is only one of the uses of a hospital, and that research and training of nurses and physicians are indispensable functions.

The criticisms and investigations of medicine in recent years have created almost a revolution in the science and a vast amount of information is available upon which summary statements can be based. Fewer schools, adequate facilities, better teaching, discovery, prevention of disease and preservation of public health, generous state support are the watchwords of progressive

leaders. This review is presented under the following heads: (1) preparatory requirements, (2) courses of study, (3) teaching force, (4) faculties, (5) cost, (6) recent developments, future progress.

Preparatory Requirements.—President Gilman years ago set a high standard of preparation needed for the highest attainment in the medical profession: the elements of mathematics, physics, mechanics, and chemistry; practice in experiment and demonstration; laboratory work in the above sciences and in zoology, physiology, and anatomy. He showed that medicine and surgery are based on the sciences in the following order: pathology, physiology, chemistry, physics, mathematics. He included the general subjects of literature, history, logic, biology, and German and French. Not only were the remedial agencies of nature and of art to be known, but the pathology of the lower forms of animal life, climatic and meteorological laws, and the geographical distribution of disease. To cover the preparatory and medical studies he would assign four years of purposeful college work and four years in the professional school. In the main this was prophetic of the present tendencies, and the Johns Hopkins Medical School has set a standard commensurate with his high ideal. President Walker's idea of a university professional school was equally high. A professional school should make scholars, have an element of learning for its own sake, an academic atmosphere, teach much not directly practical, master principles, not merely the application, lay a broad foundation for future success, thus maintaining efficiency, dignity, and standards in the profession. These are noble ideals, and may well be kept in view. But to meet them the period of education would be extended beyond reasonable limits, unless the school and college are completed earlier. The foundation of a complete college course would be desirable if two years in time

could be saved. In Germany three-fourths of the medical students enter under twenty-one. The American student on the basis of two years of college enters at about twenty-one. This age should not be extended. At present a middle ground is reached on the two-year college requirement and the prerequisites of physics, chemistry, and biology—a great change from the position of twenty-five years ago, when there were no standards for admission to law or medical study. Recently the number of schools has been reduced by mergers or by elimination of those which were unnecessary or hopelessly unfit. The demand for medical standards came none too soon; indeed it is a reproach that it was so long delayed. We may find some satisfaction in the fact that our present entrance standards measure up to those of other countries. Germany admits directly from the gymnasium—which it must be remembered gives a severe training; France requires one year after the secondary school. In England, on the authority of Dr. Flexner's report, the admission requirements, judged by the minimum, are very low. Only four subjects are exacted, all elementary, and three of those are languages—work that can be completed at fifteen years of age. Twenty-eight per cent of all the medical students in English schools register on the minimum basis. The American student enters with a foundation knowledge of physics, chemistry, and biology gained in the required two years of college. In France one year in these sciences, taken in the university department of the sciences, is required after graduation from the lycée. In Great Britain they are offered during the first year of the medical course. In Germany they are deferred to the university, are not specially related to medicine, and the method of teaching is largely demonstrative. In South America, where admission is usually directly from the high school, but the course is six or seven years,

the foundation sciences are included in the medical curriculum, although Peru now prescribes two additional years of scientific study for entrance. Putting these subjects into the medical faculty overloads the curriculum. The short cuts of "medical chemistry," etc., are an evasion, not an advantage. The question is raised, Would it not be better in Germany to found the intending medical student in mathematics, physics, chemistry, and biology during the later years of the gymnasium? Laboratory skill in these years would be a corrective to a curriculum in which "the capacities themselves have been blunted from disuse." Dr. Flexner thinks the solution in all countries is to teach the basic sciences in the secondary school.

Courses of Study.—Overcrowding the course is a fault of the medical schools as of all the schools. The desire to cover the whole field in detail prevents a clear view of the main features. The minimum requirements should be marked out, as is now attempted in elementary education; in these the training should be thorough. "Simplicity, concentration as against scattering, co-ordination, sequence, and thoroughness are the guiding principles." The rigidity of the curriculum and the emphasis on knowledge partake too much of school methods. An amount of choice should be allowed beyond the minimum requirements to secure freedom and responsibility and active interest, and also to permit some specialization. The scientific spirit is to be developed by the laboratory and by free investigation. The eternal round of required lectures and required laboratory alone does not create originality and the power of growth and future resourcefulness. With some elasticity as to times of admission, with some adaptation to individual needs, and some freedom in investigation, a new spirit and power would emerge. The time is not far distant when four quarters will be pro-

vided on the plan of the Chicago University. This would be a great economic advantage to mature men to whom time and money are valuable. The study of medicine should take in psychical life and social hygiene as well as the diagnosis and cure of physical disease. Including hygiene, a preventive feature, in medical instruction marks an important change in the whole view of the function of medicine. The physician should receive his largest fees for hygienic advice and prevention. The medical faculty in Germany, sharing the university spirit, holds to the idea of intrinsic value in the study itself, while in France and England all the subjects are used as instruments to a practical end. It is claimed that the German methods and the force of university ideals give power of permanent growth, while the English methods give practical knowledge of immediate value, but of little worth as a foundation for development. To cure the evils of charlatanism, of unscientific medical practice of every kind and of medical sects there is only one feasible and efficient remedy—a state standard for all schools of medicine and all medical practice. The law should require thorough preparation in the arts and sciences and thorough knowledge of the main branches of medical study. Chiropractics, mechanical therapists, osteopaths, naturopaths, spiritualistic healers, divine healers, Christian science practitioners, and what not—all alike should be brought under the rule. I here quote from President Pritchett's 1914 Report:

“The non-medical reader, brought up in some medical faith, whether allopathy, homœopathy, osteopathy or what not, seldom realizes how completely modern science has swept away these sects. It does not ask whether a man comes in the name of the one or of the other. Modern medicine has as little sympathy for allopathy as for homœopathy. From the scientific point of view, medicine is a process of reason and practice in which the effort is made to use all knowledge to effect practical

ends. It is ready to try experiments from any source and to abide by the result. Between the practice of the modern trained men, whether in one school or the other, the differences are small. Scientific medicine in this large sense suffers, and will suffer for another quarter of a century, in the antagonism of these and other warring medical sects, for the homoeopath is not alone in his outcry against the 'dominant' school. Whether a man undertakes to practise in the name of one or another of these beliefs, he cannot diagnose disease without a sound training in chemistry, anatomy, physiology, pathology, and bacteriology. Given an educated man trained in these fundamental sciences, the state may safely grant him the license to practise medicine in the name of any body of practitioners with whom he desires to be associated."

Post-graduate courses will become a part of the well-equipped medical schools. They are needed for the practising physician as an opportunity for review, for learning new ideas, or developing a specialty; for the young graduate who desires to extend his training or to specialize in some branch of medicine. In the hospitals of large cities clinical material for post-graduate instruction is not lacking. Dr. W. P. Colwell argues that graduate clinical study would be an advantage to the hospital because of the atmosphere of investigation and research which would be created and would pervade the hospital service; to the patients because the attending staff would be more alert and up to date; to the physicians since they would be kept in touch with modern medical knowledge; to the community because of new discoveries and a better trained medical profession. Five universities have established graduate schools of medicine. Missouri now offers work in clinical pathology and bacteriology to graduate physicians. The University of Colorado has an advanced course leading to the degree Doctor of Ophthalmology, as well as courses in public health. Graduate studies in public health are now maintained in several universities. To medical knowledge

are added subjects in engineering, architecture, law, sociology and economics, and, in some sections of the country, in political, physical, and medical geography. The special degrees of Master of Science in Public Health, Doctor of Public Health, Graduate in Public Health are provided. The usual admission requirement is a medical diploma. The bachelor's degree in arts or engineering admits to courses leading to the degrees of Certified Sanitarian and Master of Science in Sanitary Engineering.¹

Teaching Force.—The history of medical instruction is not pleasant to review. It has been commercial or used for prestige, subject to cliques and political influence. The teaching has been done by busy men, unused to educational methods, or sometimes by men of inferior capacity. It has been independent, free from control and influence, even when in a department of a university.

¹“Graduate courses in public health have been established in connection with seven medical schools leading to a degree of Doctor of Public Health (Dr. P. H.), Certified Sanitarian (C. S.), Master of Science in Public Health (M. S. (P. H.)), or Master of Public Health (M. P. H.). The course is for one year except at the Universities of Colorado, Michigan, Minnesota and Wisconsin, where the course for the Doctorate covers two years. Wisconsin gives a Diploma in Public Health (D. P. H.) for a one-year course. The University of California grants a degree of Graduate in Public Health (Gr. P. H.).”

“In the last analysis the highest type of public health official will be a statesman, an administrator, an educator, above all an efficient public executive. He will have a broad public vision, partly from native qualifications, but developed by a broad training in public health as such, which will include much that is in medicine, but leave out much of medical training; which will include all that is essential in sanitary engineering, law, sociology, and the various fundamental sciences such as chemistry, biology, bacteriology, etc. He will also have an excellent foundation of general culture. He will superintend the work of physicians, engineers, statisticians, chemists, bacteriologists, attorneys, veterinarians, and the like employed for special limited but intensive fields in public health, and will be the guiding hand in shaping public policy with respect to health. His life work, training, and ideal will be public health, not private practice with public health on the side.”—Article in *“Science,”* Aug. 20, 1915.

All this will be changed, and the progress is rapid. University organization, university support, control, and regulation are indispensable. The medical school should be treated as other departments of the university, should maintain the same standards and methods, with professors on full time or giving their first interest to teaching. This of course does not preclude the use of able lecturers to supplement or assist in work under the direction of full professors. The present demand is that not only shall the fundamental sciences—*anatomy, physiology, bacteriology, and pathology*—be taught by specialists who are first of all teachers, but also the clinical subjects—*medicine, surgery, and obstetrics*. As the laboratory is the workshop of the foundation subjects, so the hospital is the centre of clinical investigation and instruction. In Germany the powerful university ideals influence medical instruction, and the clinical professor is as mighty in his sphere as the professor of chemistry or philosophy. Objectors to full-time clinical professors point to the fact that the German professor in clinical medicine is not on full time. The reply is made that in the German medical faculty instruction is not neglected and that the case is not essentially the same as in America. The plan of full-time instruction does not exclude lectures by other able physicians, but it insures organized direction and the possibility of scientific research. In South America, the professor of medicine is broadly educated. Usually he has taken post-graduate study in Europe and has the latest ideas and methods. He has not only practical skill, but scientific knowledge, and broad culture. He represents an ideal not always even conceived in the North American schools, but one to be realized before medical instruction will merit full respect.

Facilities.—Buildings, laboratories, libraries are taken for granted; we are here concerned with facilities for

hospital service.¹ The history of the failure in America properly to relate the medical school to the hospital is a revelation of ignorance, indifference, and selfishness. The hospital is conducted primarily for the benefit of the patient, as is proper. But it is unfortunate that the organization of the hospital staff prevents the use of opportunities for the young investigator or for clinical instruction. The condition implied in this statement exists in private hospitals and in municipal and county institutions, where cliques and political influence are sometimes found. Even where both school and hospital are owned and supported by the same community, a proper connection between the two is seldom maintained. Of course the remedy is either a teaching hospital owned by the school, or an organic relation to the public hospital, a relation which would be mutually advantageous. The school should have a large control, should do the scientific investigation for the hospital; on the other hand the hospital should furnish the completest clinical facilities for the school. Many hospitals are seeking a closer connection with medical schools or are becoming teaching hospitals. It is now recognized that more efficient service for the patient is secured by co-operation with a first-class school. In France the hospitals are municipal charities and are not controlled by the universities. The clinical professors are local practitioners. These conditions are far from satisfactory. In England the hospitals are private foundations, but they are freely open for educational service, although inadequate opportunities are found for clinical demonstration and research. But it is said that the English student gets more practical work than the student in the German university, where the demonstration method is largely used. In Prussia the medical school and the hospital are owned by the state, the hospital is primarily for the

¹ Cf. Appendix B, 1, sec. 2.

service of the medical faculty and is subject to faculty control, and clinical service is unlimited. The clinics have the three objects of research, teaching and healing. In South America the state owns the medical schools and the hospitals, and the hospitals are controlled by the medical faculties.

Cost.—The cost of medical education is becoming great; it has the effect of reducing the number of schools and of putting a strain on many worthy foundations. Since the medical school is a great public service corporation, the state should not be wanting in unlimited necessary support. In South America it is believed that the state alone should have control of higher education, and that, such is its importance to the state, the cost, however great, should be freely paid. It must be remembered, however, that there the professional schools are administrative departments of the state as well as agencies of culture. The medical faculties are empowered to regulate public practice. The South American medical colleges generally have large facilities, and in many places luxurious buildings. The school at Rio de Janeiro has a library of 40,000 volumes. It is an interesting fact that every school in the countries of South America publishes a medical review. The care of public health is so vital to a nation that any needed amount of expenditure is justified for the education of physicians, for the prevention of disease, for medical research, and for discovery in the foundation sciences. Dr. Flexner in his first report on medical education makes the following estimates: There will be at least five departments in the first two years' work—anatomy, physiology and pharmacology, chemistry, pathology, bacteriology and hygiene. Each department will have a professor on full time and the necessary assistants. For a school of 250 students, the cost per department would be \$10,000 to \$15,000 per year or \$50,000 to \$75,000 for the five de-

partments. The professors of medicine, surgery, obstetrics, pediatrics, in the last two years, will require an equal sum. The total will be \$100,000 to \$150,000 yearly. In actual practice Johns Hopkins with 297 students spends over \$100,000, not including the expense for the clinical professors; Harvard with 389 students \$251,000; California \$160,000 for its medical teaching. In 1914 in the United States gifts amounting to \$17,000,000 were made for medical education, teaching hospitals, and medical research.

Recent Developments. Future Progress.—The discoveries of the last century and the more recent developments are both a justification of the cost of medicine, and a hope for future progress. We have only to refer to such discoveries as those of the application of physics to ophthalmology, antitoxins, chemical synthesis in producing remedial agents, cerebral localizations. Some recent marks of progress are: Study of the heart by graphic records of its action, measurement of blood pressure, study of molecular conditions of the blood, knowledge of the selective peculiarity of drugs, investigation of the means by which plague germs are transmitted, increasing skill in operations on the internal organs. Research in medicine and discovery in the fundamental sciences are justified. Indeed scientific physicians say that great medical questions will be answered not only by physiology, pathology, bacteriology, and pharmacology, but by chemistry, physics, biology, psychology, ethics, and social science. Preventive medicine is the great interest to-day, and there are increased problems to meet. Medical science has to fight not only contagions, but unhealthful conditions in factories and mines, the pollution of drinking water, adulteration of foods, and the use of nostrums. A bill was recently introduced into the Michigan legislature providing that the state be divided into health districts, each with a trained health com-

missioner whose duty should be to study all conditions affecting health and the means of preventing disease. The importance of this larger function of medicine cannot be overestimated. An article in "Science" submits that Egypt, Greece, and Rome degenerated because of great epidemic diseases, and claims that infectious disease destroys the healthiest, leaving the weakly and unfit. Ten centuries of freedom from disease would regenerate the race.

OTHER SCHOOLS. A PROBLEM OF GRADUATE WORK

The university of the future will provide whatever departments and schools are required by the public need. This development will be in the line of the sciences and their applications. The German universities have distinct departments called "institutes" for physics, chemistry, zoology, botany, mineralogy, geology. These relate the work of the university to the country through various applications of science. Besides are the separate technical high schools, mining academies, schools of forestry, agricultural colleges, veterinary colleges, and commercial academies, all of university standing. Columbia University has taken in the College of Physicians and Surgeons, Barnard College, Teachers College, Vanderbilt Clinic, Sloane Hospital, New York College of Pharmacy. It has an alliance with seven theological seminaries, with the New York School of Philanthropy, Presbyterian Hospital, New York Botanical Gardens, Metropolitan Museum of Art, Cooper Union, American Museum of Natural History, Zoological Park and Aquarium. It exchanges professors with universities in four foreign countries. Extension teaching is given at the university and the work is carried into Brooklyn, Newark, and some remote cities. Hundreds of public lectures are delivered yearly at the university. The list of the public

undertakings of members of the faculty covers thirteen pages. These include such matters as a Digest of International Law, relations with New York Peace Society, The Association for International Conciliation, and the Carnegie Endowment for the Advancement of Peace; expert assistance after the disasters at San Francisco and Dayton; service on the Economy Commission at Washington; constitutional advice to China; free clinics; interest in political, social, and industrial problems of the day. These illustrations are merely typical of forms of activities in the progressive universities throughout the country. Since all special kinds of service have grown out of the department of the humanities and the pure sciences and are nourished by them, we may say with Faraday "There is nothing so prolific in utilities as abstractions." These examples show the tendency to create special departments, to co-operate with independent schools and various educational agencies, to centre special schools around the university, to extend service to the community and the nation. Nearly half the colleges in the United States are doing extension work. So far as possible special schools should be a part of the university. It is a matter of economy, of community spirit, and of maintaining a balance between the theoretical and the utilitarian, the cloister and the shop. Extension work is to be a great function of the reorganized university. Indeed much that has been said under the head of the College may be applied here. The co-operation of the university proper with government, state, city and social organizations will be of the highest expert order through men trained in the university and the practical field.

"Graduate work" is developing in all the schools of the university—those of medicine, law, education, engineering, etc.—and advanced studies will be offered in an increasing number of special departments. Prob-

lems are arising about the organization of graduate study. Shall there be one graduate faculty or several faculties? Shall the Ph.D. be granted, for instance, in "Education" or a special degree? Shall the same degree be given to students branching toward research and those aiming at merely a higher knowledge of their subjects?

UNIVERSITIES AND PUBLIC SERVICE

Introduction.—One of the most significant movements in modern education is the organized effort to secure efficient government and social betterment through co-operation of the university with municipal and state departments, and with charities and philanthropies. This movement merits extended description. A national conference on "Universities and Public Service" was held in New York City May 12 and 13, 1914, under the auspices of the Committee of the American Political Science Association on Practical Training for Public Service. The proceedings have been published and the articles and discussions show the meeting to have been one of the most important ever held on the new relations of education and democracy. Of course the general ideas prominent in the discussions were in line with the trend of educational thought. Speakers urged the necessity of making school tasks real, relating them to society, illustrating them with practical examples, and of investigating social phenomena at first hand. Stress was laid on studying human beings as well as nature and organic matter. Education should train less for individual gain and more for public service. The new motives are directed toward better citizenship. As an outgrowth of the merit system in civil service, we have the idea of expert service in the interest of the whole people. The universities hitherto have failed to see their opportunity, and the people have been suspicious of the offices of

higher education in public affairs; but now the time is ripe for mutual understanding and co-operation. We recognize and apply the principles of science for instance in agriculture; now let us use them in conduct of government and the organization of society. We are able to make fairly good laws, but the administration of them is inefficient. Government, as well as corporations, must use expert knowledge; government must be strong to hold the balance of power between conflicting interests. Highly trained service is necessary because of the increasing number and complexity of state functions. The federal and state governments are entering upon scientific investigations of such matters as industrial relations and tax systems, and are using boards and commissions, with large powers, for inquiry or administration. It is evident that administration is the great weakness of democracy, that the remedy is to be found partly at least in trained specialists, and that the universities must prepare them. The conditions of the public service must be made inviting to well-equipped superior men and permanence of position must be assured. If our laws and reforms fail for lack of efficient administration, and if preparation for public service is needed, as much as for medicine or engineering, then it is the business of the universities to meet the demand. The American college hitherto has not been the complete representative of democracy. Professors in the future must turn more to reality rather than to impractical idealism; they must combine vision with achievement. The significance of this proposed co-operation between the university and the state is vast; it would correct the political unskilfulness of the college man and the lack of vision of the politician. Then the exact methods of science will allay bitterness and prevent clashes between labor and capital, and will be more acceptable to both than mere political, legal, or police interference. The

only way to make government stronger than the elements with which it has to deal is to use the knowledge of science and the efficiency of organized business. The laws of civil service must assure the appointment of experts; then the public must be prepared by a long period of education for the novel idea of efficient government by the people for the people—by business methods. Progress will be slow. While some government regulations are generally accepted, others are opposed by a class of interests, and others are bitterly fought.¹ This shows that the whole matter of public service is bound up with the profoundest questions of democracy.

Education for Service, in Municipal Universities.—The ways of preparing for city service, especially in municipal and other urban universities, are fully discussed. The list indicates also the kind of service needed, and the benefits to the community from co-operation with educational agencies.

The college for teachers may study the public school system, defective children, and exceptional children of every class.

The sociological department may take an inventory of the city administration; the students may work on part time in various capacities in the city departments, and with philanthropic institutions; they may organize clubs among foreigners and help prepare them for the lower forms of civil service.

¹ In the conference proceedings illustrations are given: Government Activities Accepted: making geodetic and geological surveys; collecting and reporting weather observations; studying soils and insect pests; conducting agricultural experiments; supervising public education; promoting the circulation of books; collecting labor statistics; and guarding the public health.

Government Activities Opposed: standardizing foods; conserving the state's natural resources; making workshops safe and healthful; enforcing laws for the protection of labor; efficient assessment of taxes; regulating banks, insurance companies, railroads, public utilities.

Regulative Branches of Administration Fought: insurance and banking departments; industrial, railroad, public utility, tax, and pure food commissions.

The college of engineering may test materials purchased by the city and investigate sewage disposal and cost of lighting; the students may work on part time in various plants and in the city engineering department. At Cincinnati the students work, alternately, bi-weekly periods, in practical engineering, and at the university. When in the shops they receive regular pay. They complete the course under these conditions in five years of eleven months. Sixty engineering concerns are co-operating in this plan.

The college of commerce may be related to various business interests; it may study for instance the city tax system and the form of city charter.

The department of household arts may reach the homes and may engage in many social enterprises.

The departments of chemistry and biology may study the water supply, public health, etc.

The school of medicine may use the city hospital.

Aid to city officials and city employes, continuation courses for city employes, and extension study for teachers may be a part of the plan.

Of course students bring experience and data back to the university for critical examination.

The universities are prepared to train students to be secretaries of social centers, leaders in settlement and in welfare work, and specialists in the departments of the city government. But the relation between the university and the community is reciprocal and governed by the law of supply and demand.

Preparation in Other Universities.—"Every office, factory, public utility, and public service is an educational opportunity for the university to utilize." This is a radical statement, and indeed a voice of protest was raised in the meeting—they were "going crazy about special training." But our purpose is to show the means of preparation for various kinds of service. The University of Texas maintains a School of Government. It has a Bureau of Municipal Re-

search and Reference. It proposes to establish also a School of Municipal Administration which shall give courses in the following branches of municipal activity: health, finance, education, law, engineering, safety and welfare. This may be enlarged into a Department of Public Administration which should prepare for every sort of public service, local, state, and national. The experience at Texas shows that city surveys for instance are a great advantage to the community whose public activities are investigated, that such work is securing recognition, and that a demand for specially trained students will increase rapidly.¹ It also shows that "a university may accept the principle of giving graduate credit for practical work of the nature described." It may be added that the "Committee on Practical Training for Public Service," under whose auspices this congress was held, has under investigation the whole matter of possible opportunities for students to receive practical training under favorable conditions.

Response to a Public Need.—The question naturally arises, Is this movement due to a misguided ambition of the universities? To answer, it is necessary to describe briefly some of the reforms proposed which are to be accomplished by co-operation of various agencies with the universities—especially in efficient administration.

¹ The Massachusetts Institute of Technology plans to use the laboratories of the Institute for various engineering tests of value to the city and state, and thus incidentally furnish additional experience to the students.

Philadelphia paid in two years 60 people for expert advice in the department of public works alone. Why should this work not have been done by a properly equipped department?

Between 1909 and 1913, 32 of the faculty of the University of Wisconsin were on state boards and commissions; 28 of the faculty have left to enter public service; 14 men have been taken from city, state, and federal service and added to the faculty.

"A municipal reference bureau, where Missouri towns and cities may obtain non-partisan information on all municipal and civic affairs, will be operated in connection with the extension division of the University of Missouri."

The matter is vital, and some enthusiasts think it involves the success of democratic government. First is the City Manager Plan, which is now in operation in seventeen cities and is gaining favor in several states. The scheme in brief is this: The people elect a Board of Directors, having the power of legislation under the city charter and of planning and general oversight; this board selects an expert manager chosen from any part of the country; the manager appoints experts who are trained for various departments of municipal activity—men educated for such service in the university and in the field. The City Manager must be intelligent about all problems of a city—engineering (social as well as structural), law, justice, welfare, civil administration, political management. It is claimed that this plan centralizes power, locates responsibility, secures expert service, and produces economy and efficiency.¹ It is pointed out that railroads and all big business are organized in a similar way, their boards of directors choosing the men who are best trained and fitted for the responsible positions; that even the universities are conducted on the same principle—the president being in theory an expert who has enough knowledge of his job to select experts for the various departments. It is argued that people in the mass can secure for themselves good and efficient government by no other means; that the scheme is democratic because the people make the fundamental law and their representatives legislate and control under this law; that fitness alone would be the qualification for any public position; that the objection to bringing

¹In Germany, for important positions in the civil service, the candidate must have (1) a liberal education, (2) special training, (3) a practical "try-out." Service must be coupled with training for service.

In Frankfort a Council is elected by the people (the candidate may reside anywhere within fifteen miles of the ward for which the council member is elected). The Council elects a Mayor, who may be a non-resident, and twelve other experts.

men from foreign communities is too provincial to be taken seriously. Second is the function of commissions in effective government. The relation of universities to bureaus, boards, and commissions has already been presented, and the use of university-trained men for many forms of public service has been pointed out. The substitution of commissions, with large powers of investigation and legislation and administration, for some of the usual law-making and legal procedures, is one of the large experiments of the day. The courts have been criticised for their alleged failure to handle railroads, public utilities, accidents, etc. "Jurisprudence uses a sporting theory of justice in litigation instead of right and wrong." A commission of experts examines actual facts and conditions,¹ not precedents, and its rulings are based on the merits of the case; it uses the logic of facts. Lawyers appearing before such a body must be accountants and scientific experts. If corporations object to this kind of regulative control, it may be answered that they are better treated by experts than by demagogues. Third is improved consular service. The consular service of the United States, both in standard of qualifications and in uncertainty of official tenure, is commonly regarded as a disgrace to our government. A German consul is first a university man; he must have an additional four years of training, and be a

¹ Subjects of investigation or regulation: better conditions in cities, health conditions, administrative devices, commerce, international law.

Questions in face of which the individual or the state official is powerless, and requiring the employment of expert knowledge under authority: Is the car service acceptable? Is the electric current of required strength? Is the meter accurate? Is the gas of standard quality? Is the factory safe and healthful? Are proper safety devices used in this or that industry? Is tuberculosis in a certain herd of cattle? Is benzoate of soda harmful? Many things cannot be even safely or efficiently questioned by the individual—failure to provide seats in stores, excessive shipping charges, impure foods.

thorough jurist. When, in this country, appointments are taken out of bad politics and are made wholly on grounds of preparation and fitness, and tenure in office is determined chiefly by good behavior and efficient work, the universities will be encouraged to train men who should be highly useful and a credit to our government.

Permanence of Position.—To secure men fitted for the public service, appointments must be permanent and salaries adequate. Politics and government activities should offer a career to the self-respecting youth of our country. Graduation from a school conducted in co-operation with city and state departments should admit candidates to positions for which they are suited. America is behind the times, when all Western Europe gives opportunity for permanent government positions, and the best talent is utilized for the benefit of the nation. This is a matter of education, largely through action and reaction between the universities and the public. The universities will prepare men when the communities find a place for them; municipalities and various organizations will use them when prepared. Perhaps the initiative will come from the universities. The fundamental law must be so changed that scientific organization of every department of public activity and the appointment of the best men are assured. The merit system must be improved to meet the proposed reform. Civil service has been a failure in part, because the conditions were not ready for the system, and of necessity inferior appointments have often been made.

*Credit for Field Work.*¹—The question of credit for field work of course entered into the deliberations of the

¹ "Practical field work, accepted or required as a part of university courses, is actually found in such lines as the following: political economy and engineering work under the joint supervision of the university and state departments, and work in state departments under university supervision; engineering—city planning, making

conference. The preponderance of opinion was for a more liberal attitude, for a larger definition of laboratory work, although the idea was still held by some that, if you train men in the fundamentals in the university, they will be best prepared to learn the practical in the shop and field. It was claimed that one year in three of graduate study might well be in practical service; and even that field work should be compulsory for Ph.D. students in economics. Harvard, in the Department of Education, gives credit toward the A.B., M.A., and Ph.D. for experience in teaching. It has given credit for work in the department of labor in Canada, for studying the tax system of several states, and probably would recognize in the same way approved and regulated state and government field work.

GOVERNMENT AND ADMINISTRATION ¹

Forms.—The form of university administration may be "military," authority being exercised by officials according to their degrees; "functional," giving responsibility and a large degree of power to officers and committees having special duties, such as looking after the welfare of the students, caring for buildings and grounds, supervising all the teaching; or "democratic," a form which allows great freedom to the faculty and limits that of the president and deans. No American university uses any one of these exclusively, but employs all three with emphasis on some one form. To-day

roads and pavements; economics and commerce—practical laboratory; social science—extensive field studies; library course—work in public libraries; law course—six months in a law office toward the degree; medicine—field service in various hospitals; agriculture—six months' work on a farm toward the degree; approved vacation work in library and laboratory. 'Training through contact with clinical material is needed in all professional courses, and in all non-professional courses. Credit for field training needs to be made the rule.'

¹ Cf. Appendix B, 3.

there is insistent clamor for more democracy; also for more efficiency through a business plan of organization which gives to the administrative head great responsibility and corresponding power.

The Present Type.—The type of university administration, so far as it may be said to exist, may be described first. The Trustees or Regents represent the constituency or the state and under the organic law have full power. They control the funds and authorize expenditures, make statutes for the general conduct of the institution, determine the general policy, authorize all degrees, confirm all appointments, and are the court of appeal and final decision. The President, under the Trustees, is made responsible for the welfare and progress of the institution, the carrying out of all its policies, and the administration of its affairs. He is usually a member of the board of trustees and the presiding officer of all faculties, and he appoints all committees. Through him petitions and recommendations are presented to the board. He has a temporary veto power—the question to be referred for decision to the board. He recommends the budget, changes in plans, and schemes of progress. If he is wise, he uses power as little as possible, and makes himself the representative and leader of his colleagues. But his functions are not limited to a clearing-house business for all the affairs of the institution. He is supposed to have a comprehensive view of educational advancement and changing political and industrial conditions, and to make proper adjustments of the work of the university to the opinions and needs of the community. If at the head of a state institution, he is especially concerned with its relation to the public-school system and with the welfare of the high schools, and is interested in all forms of educational, social, and material progress. The state must be made acquainted with the importance and service of the uni-

versity. The president is responsible for the tone and spirit of the institution, for high moral and intellectual standards, all that makes for character and excellence. Perhaps the man and his influence on scholarship and character, his touch with modern ideas, his ideal of citizenship, are more important than the form of administration. The university usually is organized with a Council of Deans advisory to the president; a Faculty Senate, controlling matters common to all the faculties; and the several faculties, each with its standing and special committees. The faculty regulates courses, admission, terms of graduation, and time schedules, and makes rules for the department and for the control and welfare of the students. Faculty measures requiring expenditure of money are referred to the trustees. A question appears, not altogether a new one, concerning the relative power and influence of faculty and departments. Shall the faculty exercise a degree of control of the departments, or shall each be a law unto itself? Shall needs be presented by the departments, by individual professors, or by the faculty? The larger question of faculty autonomy is discussed in another place.

Functional Form.—The functional form, as we understand it, implies a considerable degree of autocracy. The advocates set the standard of a man for president who is eminent as an administrator and as a moral force. He should be the creative and the executive power rather than the scholar. He should have great freedom in his relation with trustees and faculty. With the advice of heads of departments he should be the administration. He should invent while others carry out the plans. For relief of the president and for efficiency there should be expert heads of the business and the educational departments. Mr. Birdseye, in his "Reorganization of Our Colleges," suggests a list of bureaus each with a definite function:

Bureau of Statistics and Forms.

This bureau is to provide forms for statistics and forms for the results of class-room work; collect the general statistics of the college and of the students, and data for reference; make reports on the entire condition and conduct of the institution; and act as a bureau of information.

Bureau of the College Waste Heap.

This is to advise students about their courses, and study the causes for student failures.

Bureau of College Activities.

This is responsible for the community life and the moral welfare; in its work it seeks the aid of faculty and students.

Bureau of the "College Home" Life.

This has oversight of the college homes.

Bureau of Health and Exercise.

This cares for regulated physical exercise of all students, requires physical examinations, and gives or provides for lectures on hygiene.

Bureau of the Graduate Field.

To work in the interest of the graduates, study the curriculum in the light of results, use the experience of the graduates for the benefit of the undergraduates.

Bureau of the College Plant.

This has oversight of the work of the teaching staff.

Bureau of Publicity.

This makes known the best men and the best work of the university, and sends information to alumni and to parents.

Bureau on the Personal Equation.

"To preserve and make effective the personal equation which was so vital an element in the training of the earlier college—the power of the older man and scholar upon the younger man and student."

Department of Citizenship.

To complete the scheme a department of citizenship is needed. Citizenship should be a freshman study. The students should organize for self-government on the model of the state, and should learn by this method the ideals of practical citizenship.

To Carry Out the Scheme.

The chief of the administrative department should be over

and through all these bureaus; this department and its head should be the right hand of the president; the president himself should be a man qualified and trained to use such a business organization; there should be a distinct cleavage between college and university; the function of the board of control should be carefully worked out so as to help, not hinder the internal arrangements.

Departments for the functional system of administration are suggested in Bulletin Five of the Carnegie Foundation Reports. They are as follows: department of buildings and grounds, interdepartmental janitor system, purchasing department, stores department, mail handling, bursar's department, department of discipline, bureau of publicity, office of registrar, bureau of inspection.¹ The above lists contain suggestions which studied and adapted may be of great value to any institution. Mr. Birdseye's plan is primarily for college administration. Many objections have been raised, and the danger of applying the methods of an industrial corporation to education has been pointed out: "the efficiency of a university is not to be reported on in the same way as the efficiency of a glue factory or soap works."

Democratic Form.—We now come to the "democratic" plan, which is the subject of much current discussion. The critics of the present system point first to the following facts of history: In mediæval times the faculty and the students constituted the university. In Bologna the students were in control and in Paris the professors managed the affairs of the university. The great scholars and scientists two centuries ago did their work independently or in connection with museums or scientific

¹ At the Dartmouth College Conference, 1911, on Scientific Management the following "subsidiary" departments of the college were suggested: (1) Finance, (2) Construction and Maintenance, (3) Records and Discipline, (4) Publication, (5) Commissary, (6) Sanitary, (7) Statistical, (8) Social, (9) Library.

academies. Berlin, governed by the faculty, has played an important and influential part in German history. These facts are cited to show that the American form of university organization is not necessary to scholarship, that, indeed, the form may be unfavorable to its highest development. The European university is free; the rector is chosen by the faculty for distinguished scholarship and merit, and is merely the representative and spokesman of the faculty. In Germany there are no trustees and in England the professors are the corporation. The universities of Oxford and Cambridge, as distinguished from the included colleges, are ultimately controlled by the masters of arts, but administered by elective councils of the teaching body. The chancellor occupies merely an honorary position. "In Oxford and Cambridge the master and fellows are the college; they own the buildings and endowment and divide the income among themselves. They elect their colleagues and successors and of course their head. The headship is an honorary and social position with but few executive powers and duties." In their discussions the advocates of democracy make a distinction between the small college and the large university, the newer and the older institutions, the state university and the private corporation, and direct their criticisms especially toward the large endowed universities. The critics here speak for themselves:

Elsewhere throughout the world the university is a republic of scholars; here it is a business corporation. The American university has become an autocracy, wholly foreign in spirit and plan to our political ideals. The trust promoter and insurance president, the political boss and government official, the university president and school superintendent have assumed powers and perquisites utterly subversive of true democracy. The president is a deified monarch raised to a sort of imperial throne. He is not a leader, but a boss; we have the department-store system of sub-bosses—deans, heads of departments,

presidential committees; we have professors appointed by, with salaries determined by, and on occasion dismissed by the president—all subject to him and dependent on his favor. The task of the American university president is so enormous that nothing short of plenary powers would permit of its being done at all. They have their cabinets or executive committees, staffs such as deans and registrars, field officers in the form of heads of departments, committees, sub-committees, systems of reporting—all running like a well-developed mercantile establishment. The president is elected and left to his own resources and he is expected to make of the institution a big thing. The universities aim at the power of rapid adjustment, to strike while the iron is hot, centred in a man free to act. The new type of leader is self-confident, incisive, Rooseveltian. Even if the one man is equipped with an inconceivable breadth of culture and of variegated scholastic interest, mingled in due proportion with the wisdom of a Solomon, the self-sacrifice of an apostle, and the temper of an angel, there will be misunderstandings, heartburnings, jealousies, and suspicion. Then the president is in danger of being swayed by economies, politics, interests, pressure, false motives, conflicting with academic purposes. A dictator appointing minor dictators makes an economical and powerful machine. In politics, business, and education this form of despotism has prevailed, but appears to be only a passing phase in educational development. The system makes for ease, rapidity, and sureness of administration, but the one-man power in politics undermines manhood, in industrialism destroys initiative, in education tends to defeat the very object of teaching which should be to develop and make the most of every man's individuality. Perfunction is the oil that smooths administration, but it clogs and dams personality. There is a new gospel in all relations; employer and employe must come together. The universities should be the preservers of democracy.

Remedies are freely offered and summaries of typical ones are given:

Professor Cattell proposes tentatively the following form of organization: (1) Have a corporation consisting of the pro-

fessors and other officers of the university, representatives of the alumni, and selected members of the community. Let the corporation elect the trustees; let the trustees elect a chancellor and a treasurer. (2) Let the professors elect a president. (3) Make the unit of organization the school, division, or department. (4) Let each division elect a dean and an executive committee, and have the power of nominating professors, subject to the approval of a board of advisers, the election of the university senate, and the veto of the trustees. The division should have financial autonomy. (5) Let the departments elect members of university committees and of the university senate. Let the senate be co-ordinate with the trustees, and have an executive committee to meet with the executive committee of the trustees. There should be occasional meetings of all the professors.

Four other plans are outlined in brief: (1) Have two officers instead of one president, one at the head of educational affairs, the other controlling business affairs. (2) The faculty should make all appointments to the teaching staff. The faculty should choose its own executive head. The heads of departments or divisions should constitute a council to determine matters common to all. (3) Have a standing committee of the trustees and a like committee of the faculty for joint conferences. No important legislation should be passed by the trustees without the concurrence of this joint committee. This plan would make the faculty co-ordinate with the trustees, would create common understanding, and relieve the executive of part of his load. (4) Have the professors represented on the board of trustees, say one-third of the board. Give the professors the right to nominate members of the faculty—a formal recognition of the informal advice of departments concerned, now sought in making appointments.

The President of Cornell University recommends a plan which is now under consideration. He first points to the fact that already professors sit, deliberate, and vote with trustees in the administrative boards and councils of the university library, and of the medical college in New York. These joint councils are elected, one part by the trustees, the other by the faculty. The President recommends that a council, like that for the medical school, be established for every school in the

university. The plan would probably involve the annual assigning of a fixed income to each college. The findings of the councils would be subject to the approval of the trustees. The President should submit all nominations for appointment to the council. The faculties should have the right to select their deans.

This is condensed from an address by President G. Stanley Hall.—The ideal of the university must be quality, attainments, and ability rather than numbers. The position of president requires a man who is an expert in the history of higher culture and its institutions, the rise and present status of learned societies and academies, the great reforms of the past and the reconstructions now evolving, government patronage of learning and research past and present, the movement of university extension. He must study precedents and culture trends; must believe profoundly in the power of faculty democratization, and do the utmost to develop it. He must have a minimum of arbitrary authority and a maximum of faculty co-operation, respond to the aspirations of his co-workers, help his colleagues to achieve their ideals. Competition for dollars and students, horizontal expansion, multiplication of machinery or devices for efficiency of the factory type are unworthy aims.

Comments.—These criticisms when not socialistic are frankly democratic. The more radical opinions quoted condemn the management of business, industry, and education. But it is not the system in business management which is attacked to-day, but the secrecy, selfishness, and exploitation, the lack of publicity and justice. Democracy is seeking efficiency, and is more and more giving responsibility and power to able officials, holding in its hands the right of revision and recall. The latest idea of democratic government is strong administration by qualified experts. In no other way can people in the mass get their affairs managed wisely and well. The problem of university management is similar. The president is given power, he is constantly exposed to the limelight, he must make good or be sub-

ject to dismissal. This is a period of rapid development in school and university and it requires strong leadership. The head of a university to-day must grasp the significance of new movements, be able to formulate policies, and carry on wisely the constructive work of the period. He must keep an open mind toward information, advice, and suggestions, but must be free to decide and act. A manager subject to the state or the corporation, the agent of its general policy, but exercising large powers and freedom, appears to be a necessity at this stage of our educational history. The critics concede that the average president has his work at heart, defends the rights of the faculty against undue interference from the trustees, and works earnestly for the upbuilding of his institution. It is said that Germany begins to see the need of some such comprehensive and progressive management as is found in the American university. Oxford to-day might be better for a Yankee-like enterprise—and a frank expression of this view may be heard within its walls. No doubt many changes in method and spirit are needed. The university should have a financial and business head who will relieve the president of one-half his burden. It sometimes seems that five or six presidents are needed—an administrative, a financial, a political, a social, and a religious. A partial solution is the functional system. Under this the whole university is thoroughly organized and expert service is at the command of the administration—a service which the professors, trained for another kind of activity, may not be prepared to render. An autocratic faculty might prove an unprogressive oligarchy as well as an inefficient business corporation. Committee management is condemned as inadequate. Departmental autonomy may contravene the necessary unity of the university. We have been discussing the university as it is with all its departments, including the

college. When we have the real university, like Johns Hopkins or Clark, the problem will be different. But the reorganization may go on for decades, and progressive business management will be needed, at least until somewhat permanent conditions are reached, when the democratic ideal and the vision of the scholar may be realized. In the meantime the whole tendency is toward a better conception of administrative functions, responsibility is distributed among business departments, and the president is becoming free to be the sympathetic colleague and inspiring leader.

The State University.—The state university has its peculiar problems; some of the criticisms aimed at the endowed university are not applicable to the state-controlled institutions. The regents are the representatives of the people, who make the fundamental laws and may change them at any time. The university is an organ of the state. It must relate itself to the state's varied interests, show the value of higher education to the commonwealth, educate public opinion, advance progress, maintain standards. It must appeal to the people's representatives for funds. It must invite appreciation, sympathy, and generous support on the ground that the university is an instrument for the realization of the highest ideals of the people. The functions of the president are large, and nothing short of large freedom would enable him to perform them. No danger that he will become an autocratic fixture.

Some Points on Administration.—The possible theses under the head of "administration" are endless, and only a few can even be touched. Some of the attacks on administrations would be avoided if there were fewer initial mistakes in the appointment of professors, and removals were less frequent. Too much cannot be done toward creating favorable teaching conditions. Relieve the professor of clerical burdens, sympathize with

his aspirations, help bring out the best that is in him. The problem of academic freedom would be easier if trustees and professors had clearly in mind the distinction between seeking and teaching truth, and promulgating, without judgment or taste, half-fledged opinions on a variety of subjects, which may be radically opposed to the sentiment of the community. The president must dare to be economical, especially on the side of the physical plant, and limit equipment to needs and uses. This does not mean a narrow policy or a short view of the functions of an institution. Expenses should increase in proportion to the opportunities for real service and the need of constructive work. In the older institutions with a national constituency, and in state universities located in populous and wealthy centres, the annual budget has become enormous, but not in excess of the demand for development. In 1913 the biennial appropriation for Illinois was \$4,500,000; Wisconsin \$4,130,000; California \$3,900,000. This year Illinois receives \$5,000,000 for the present biennium. Columbia has an annual budget of about \$4,000,000. A very vital question is that of retiring allowances for professors, especially since under existing conditions in this country funds for the purpose are not available for all the institutions. The idea of pensions for certain classes of service appears to be growing, and all universities ultimately will provide for them through state funds, or private benefactions, or by some form of organization within the university. In the interest of the students a wise administration will make use of all agencies—trustees, professors, alumni, older students, various organizations—to promote the highest ideals of college and university life. There is danger of too much paternalism. Hustling along by the collar is not healthful for the mature student. He must find his own way when the object of the journey is pointed out. Rigid methods, compulsory tasks,

do not invite to thought and initiative, or create the joy of self-help, of investigation and discovery. In the genuine university the student will have larger freedom. The spirit of the administration, its vision and ideal aim, are chief in importance. So far as possible, in the higher departments, the university will maintain the old conception of a community of scholars and teachers in intimate and helpful relation. It will strive for able teaching, scientific discovery, academic freedom, and the highest degree of democratic rule consistent with efficient organization. It will have the fewest possible regulations and formalities. It will advertise by the excellence of its work, by letting its light shine. It will fit men for great teaching positions, for expert service to state and society, for leadership in all the ways of progress.

X

NATIONAL ORGANIZATIONS. NATIONAL UNIVERSITY

THE progress of higher education will be enhanced by the many national organizations now considering its problems. Community of effort was lacking until late years. In the National Education Association school questions have occupied the field and in recent years the discussions have become modern and vital and manifest the spirit of progress. The colleges and universities have maintained a department in the Association, but it has never represented the best effort of the higher institutions; the work has been more or less perfunctory and on traditional lines. The Association of State Universities was the first to be formed; later other agencies have appeared in the field. The purpose of these bodies and their possible contribution to progress will be briefly outlined.

NATIONAL ASSOCIATION OF STATE UNIVERSITIES

The Association of State Universities is the oldest of these organizations. It has passed through the stage of merely traditional views, discussion of minor problems, and promotion of the class of institutions represented, and is taking up broad questions. It has done something to mark the form and function of the university, its relation to the school system and to the state, and is now considering "economy of time" as affecting the college and the university. It has consistently promoted the idea of a national university. It took the initiative

in defining the American university; the terms of the definition are given here:

There are certain clearly marked tendencies or forces at work in our American society toward a development, at no distant date, of a typical institution of learning, which we may not improperly call the standard American university.

This institution will, for an indefinite time, include as an important part of its organization what we may call a standard American college, with a 4-year curriculum, with a tendency to differentiate its parts in such a way that the first 2 years shall be looked upon as a continuation of, and a supplement to, the work of secondary instruction, as given in the high school, while the last 2 years shall be shaped more and more distinctly in the direction of special, advanced or university instruction, rising gradually into the advanced work of the graduate school.

The standard American university will also include as a distinct department the graduate school or philosophical faculty.

It will also include as organic parts of the institution in its fully developed form various professional schools, such as law, medicine, and engineering.

Present tendencies point, in our opinion then, to a definite differentiation in the work of the college at the close of the sophomore year toward university work in the real sense. If these views are just, we suggest the following formulation of principles underlying the organization of such an institution and we may define the standard American university to be an institution: (1) Which requires for admission the completion of the curriculum of a standard American high school with a 4-years' course, or in other terms, the completion of a course which will enable the pupils to offer not less than fourteen 5-hour units, or equivalent; (2) which offers in the college of literature and science 2 years of general or liberal work completing or supplementing the work of the high school; (3) which offers a further course of 2 years so arranged that the student may begin work of university character leading to the bachelor degree at the end and reaching forward to the continuation of this work in the graduate school or the professional school; (4) which offers professional courses, based upon the completion of 2 years of collegiate work, in law, or medicine or engineer-

ing; (5) which offers in the graduate school an adequate course leading to the degree of doctor of philosophy.

It is recommended that this association recognize any institution, in whole or in part, doing work of this grade as, in so far, doing work of university quality.

In recommending that university work begin with the junior year of the college and that the professional schools be based on the first 2 years of college, the report is in line with present tendencies. It is in accord with the growing belief that the work of the last 2 years of college should be organized into groups that aim at more definite results, and lead to greater efficiency. But this is only the first of many problems. We are facing questions of the time beyond the junior year for attaining the Ph.D. degree, of adjusting the scheme of counting the last 2 years toward both arts and professional degrees, of the place of the A.B. degree, of the age when the period of general education should end, and of a possible reorganization of elementary and secondary education. But these questions are not ready for solution and hardly belong to the work of the committee at the present time.

In accordance with the foregoing definition of the standard American university, it is recommended that the following standards be set up:

1. *Time Requirement for the Bachelor's Degree.*—Not less than 60 year-hours, or 12 units, of collegiate work shall be required for the bachelor's degree.

2. *Qualifications of Teachers.*—It is expected that the teacher in the high school shall have the bachelor's degree, or show evidence of equivalent attainment, and it is recommended that he have the master's degree. As a rule, the professors of all ranks in the collegiate work shall have the degree doctor of philosophy, or its equivalent. The professors giving instruction in graduate work are expected to show, in addition to the possession of a doctor's degree, or its equivalent, their scholastic ability by successful research and publication, and above all, they must have demonstrated that they have power as teachers to inspire the students with zeal for research. Indeed, it is understood that all the teachers should possess the power of imparting knowledge and of character building. In addition, the professors in the professional schools should give evidence of doing

investigative work and those in technical schools, evidence of the power of practical research.

3. *Institutional Facilities*.—(1) There should be adequate general and departmental libraries, with (a) sufficient number of duplicate books for purposes of undergraduate instruction, (b) where graduate work is offered, books, monographs, and other material for purposes of research. (2) There should be modern laboratories and apparatus, with (a) sufficient supervision for undergraduate teaching, (b) where graduate work is offered, research laboratories.

4. *Time Units for Degrees*.—Institutions providing for advanced work shall require 3 years or nine 5-hour units from the beginning of the junior year for the degree of master of arts, or 5 years or fifteen 5-hour units for the degree of doctor of philosophy, and with work in residence.

(The units shall not necessarily be schedule hours, but their equivalent, and shall include credit for research and thesis work. It is of course understood that from the beginning of the junior year, there is the adoption of a group system suggested by the honor schools in English universities, or the separate faculties in the German universities, and that the kind of instruction contemplates investigation—in short, science with power—as the purpose. It is the intent that the cultural atmosphere shall pervade the work of the student who begins specialization, and that something of the spirit of discovery and the earnestness it brings shall affect the cultural temper.)

5. *Scope of Curriculum*.—To be a standard university an institution shall be equipped to give instruction leading to the degree of doctor of philosophy in at least 5 departments, according to the standard prescribed in this report, and shall have at least 1 university professional or technical school. The term *university professional or technical school* shall not be applied to any professional or technical school that does not require the 2 years' collegiate training for admission.

ASSOCIATION OF AMERICAN UNIVERSITIES

The Association of American Universities represents the great historic institutions of the country and the older

state universities. The formal basis of institutional membership is a well-developed graduate school, although practically the door is not open to the presentation of claims for admission. It has adopted in substance the definition of a university made by the Association of State Universities. It has a committee to co-operate in the study of "reorganization," but as yet this committee has made no set investigation. The Association has a great opportunity to lead in the larger questions of the form and aim of education in this country and of the ideal of the American University. I quote from the president of a university belonging to the Association. Incidentally the quotation is a criticism of the minor interests which engage the attention of the Association members, though not here printed for that reason, but because it shows the neglect of greater questions.

"More lately the movement of protest is against the autocracy of the dean, who in large institutions has constructed a mechanism of rules, methods, procedures, standards, which have come almost to monopolize the deliberations of the Association of American Universities, which fortunately cannot legislate or prescribe for its individual members. It is they largely who have broken up knowledge into standardized units of hours, weeks, terms, credits, blocking every short cut for superior minds and making a bureaucracy which represses personal initiative and legitimate ambition. The assistant professors and younger instructors, it is charged, are burdened with the drudgery of drills, examinations, markings, so that the best years of the best young men, who are the most precious asset of any institution, or even of civilization, are wasted—hardships which make them part of a machine with no ideals of what sacred academic freedom really means."

ASSOCIATION OF URBAN UNIVERSITIES

In 1914 an Association of Urban Universities was organized in Washington, D. C., to consider problems peculiar to this class of institutions. The function of the mu-

nicipal university has been presented somewhat fully in previous chapters. The relation between higher education and the community is likely to be worked out clearly and definitely first in the cities. The Association may hasten the solution of many vital questions of the university and public service. The following is quoted from the call for the meeting:

"The municipal colleges are aiming to do for their cities some of the things the state universities are doing so admirably for their states. Private institutions in cities, realizing the obligations resulting from freedom of taxation, are endeavoring to serve their local communities. The general public, on the one side, is awakening to the value and necessity of expert knowledge, and the universities, on the other, are realizing, as never before, their duty to train men and women for municipal, state, and national positions. Since much of this is new and experimental, it is thought that a conference on the relations of civic universities to their local institutions and communities will prove helpful."

ASSOCIATION OF AMERICAN COLLEGES

In January, 1915, the Association of American Colleges was organized in Chicago. Its purpose, as the name implies, is to discuss matters which have to do with collegiate work. A full statement of its plan is not available, but the body represents a much-needed movement. It can study waste in college, join in the discussion of the reorganization of American education, redefine the place and purpose of the college, and restate the adjustments of general education to our civilization to-day.

AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS

The Association of University Professors was formed in New York City, January 1, 1915. It is to be free from the mechanism of university problems, and intends to

devote itself to the large question of the ideal university and ideal teaching. It will consider such matters as the proper organization of departments and their relation to one another, the relations of instruction and research, the adjustment of graduate to undergraduate instruction and of professional studies to both, co-operation between universities to prevent unnecessary duplication, the manner in which the university teaching profession is restricted, the problem of graduate fellowships, migration of students, recognition of intellectual eminence in giving honorary degrees, tenure of professorial office, methods of appointment and promoting, function of faculties in university government, relation of faculties to trustees, violations of academic freedom. The committee on organization state the plan and purpose as follows:

"The scientific and specialized interests of members of American university faculties are well cared for by various learned societies. No organization exists, however, which at once represents the common interests of the teaching staffs and deals with the general problems of university policy. Believing that a society, comparable to the American Bar Association and the American Medical Association in kindred professions, could be of substantial service to the ends for which universities exist, members of the faculties of a number of institutions have undertaken to bring about the formation of a National Association of University Professors. The general purpose of such an association would be to facilitate a more effective co-operation among the members of the profession in the discharge of their special responsibilities as custodians of the interests of higher education and research in America; to promote a more general and methodical discussion of problems relating to education in higher institutions of learning; to create means for the authoritative expression of the public opinion of college and university teachers; to make collective action possible; and to maintain and advance the standards and ideals of the profession."

COMMITTEE ON ACADEMIC FREEDOM

A "Joint Committee on Academic Freedom," appointed to represent the American Economic Association, the American Sociological Society, and the American Political Science Association, has made a preliminary report. It points out the dangers in teaching economic, political, and social science, from the fact that trustees, benefactors, and many parents of students are concerned in the theories which may be advanced, and that in state institutions the teaching of these subjects may run counter to the current political view. The committee asserts in general the doctrine of freedom in the interest of progress, of student rights, of the more liberal views of trustees, and of the community at large. However, distinctions are made between college and university, undergraduate and graduate instruction, instruction and public activities, academic and public utterance, and the opinion and the method of expressing it. The report is a candid and careful fundamental statement of the problem.

STANDARDIZING AGENCIES

The Report of the Bureau of Education on "Present Standards of Higher Education in the United States" enumerates some forty standardizing agencies. The list includes universities, colleges, schools, and various societies and associations. There are three hundred educational associations in the United States. Many fear all standardizing tendencies, believing that they prevent progress and the free development of individual and local character in institutions. The time may come when such danger will be real, but now standardizing is but another name for advancing the work of education in degree and quality, defining the best ideals,

giving larger views, and eliminating ideas, methods, and institutions that are comparatively worthless. In this country agencies with decisive influence are needed because of the lack of state regulation and because of the abuses of freedom, from which the public has suffered in reality and the country in reputation. Nothing can do so much to eliminate all pretence, to promote genuine learning, to enlarge the horizon, as an honest examination of all classes of institutions and frank publicity.

A NATIONAL UNIVERSITY

The idea of a national university has had a long history, dating from the administration of George Washington, and it has been fostered by prominent men from his day to the present time. Specific measures to found such an institution have been repeatedly urged upon congress. At present the movement is advocated by the Association of State Universities and the National Education Association, and committees representing these bodies have placed before congress a definite plan. A bill incorporating their idea was presented at the last session.

The objections urged by conservative universities never appeared to me well founded. Of course the original idea has gradually developed into a new conception of the function of such an institution. The ordinary college and university training are now amply provided for in every state and in the country at large, and there would be no call for duplication of existing institutions at the expense of the general government.

To-day the conception is of an institution different from all our universities and from any in foreign countries. The present view of the functions of government and the hope in the best elements of democracy give a new aspect to the whole question. As the state uni-

versity is in a vital sense the organ of the state, a national university would become the organ for the fulfilment of the highest promise of the entire republic.

To a better understanding of the problem, an account of the educational agencies owned and supported by the government is necessary. A report on the means for study and research in Washington, made by President Hadley and published by the Bureau of Education in 1909, sets forth the opportunities as they now exist. The Fifty-second Congress, 1892, passed a resolution concerning the use for educational purposes of the facilities in certain departments. In 1901 this was supplemented by another resolution. These are quoted:

1892. *Resolved*, That the facilities for research and illustration in the following and other governmental collections now existing or hereafter to be established in the city of Washington for the promotion of knowledge shall be accessible, under such rules and restrictions as the officers in charge of each collection may prescribe, subject to such authority as is now or may hereafter be permitted by law, to the scientific investigators and students of any institution of higher education now incorporated or hereafter to be incorporated under the laws of Congress or of the District of Columbia, to wit: Of the Library of Congress, National Museum, Patent Office, Bureau of Education, Bureau of Ethnology, Army Medical Museum, Department of Agriculture, Fish Commission, Botanic Gardens, Coast and Geodetic Survey, Geological Survey, Naval Observatory.

1901. *Resolved*, That facilities for study and research in the government departments, the Library of Congress, the National Museum, the Zoological Park, the Bureau of Ethnology, the Fish Commission, the Botanic Gardens, and similar institutions hereafter established shall be afforded to scientific investigators and to duly qualified individuals, students and graduates of institutions of learning in the several States and Territories, as well as in the District of Columbia under such rules and restrictions as the heads of the departments and bureaus mentioned may prescribe.

The first act was narrow in its conception and limited in its effect to private universities in Washington; the second was broader. Very little has resulted from either of them. President Hadley divides the means for study and research into three groups: facilities open to the general public (libraries and museums); training schools for class instruction for departments of government service; laboratory facilities and instruction available to individual investigators. He finds the obstacles to their use to be these: space difficulty; administrative difficulty; educational difficulty. But we cannot go into the details of the report. An inquiry was made in 1901 as to the number of students who could be accommodated. This showed that 272 students could be cared for in 22 selected and specified departments. The later report states that about 100 students could be received in 19 departments. It would appear that the use of the departments can be enlarged only through a central organization, with adequate buildings and laboratories constructed for teaching purposes. That a national university might be the best form of such an organization is shown later.

The argument for a national university may be summed up briefly. In Washington are found scientific institutions, museums, libraries, observatories, departments and bureaus of agriculture and commerce and education, most of them owned by the government and nearly all receiving government support at least in part. All of these perform useful work, but they are not correlated and are not organized to be most serviceable in increasing the scientific power of the nation. Congress has not a knowledge of the larger possibilities. Only a body of experts constituted as a faculty and charged with the special duty would discover the greater use of governmental agencies for training, for discovery, and for national progress. The national university would

have its inception in these departments at Washington, grow out of existing institutions. The first object would be to make available to students the vast resources for study and research. There would be adequate buildings centrally located, a body of investigators and lecturers who would supplement the departments, but without interfering with the special work of each. With such a beginning the university would gradually develop in the direction of greatest need and usefulness.

What would be the peculiar function of a national university? First it would be the agent of the government in its own service. As a centre of knowledge and opinion on large questions it would aid the legislative and executive departments, and influence the country at large. Great industrial and economic problems—labor conditions, industrial disputes, insurance, pensions, tariff, capital—call for impartial investigation more scientific and more comprehensive than has yet been made. Agriculture, manufacturing, commerce are large and important fields for the scientist and the economist. The principles, organization, and adaptations of education are to be studied in connection with society—a vast work hardly touched by the sociologists. Literature, music, art, architecture, the spiritual side of civilization, can be promoted in new ways and by more powerful means. A national university with adequate resources at its command would be the centre of discovery, and the training-school of the highest experts for every form of government and social service—the promoter of every interest of civilization. Many scientific researches and many inquiries of national scope could be conducted in co-operation with the leading universities. Some selective and directing influence is needed to unite scattered efforts and correlate fragmentary discoveries.¹ The

¹ "Particulars of a 'scheme for the organization and development of scientific and industrial research' were issued on July 26, 1915,

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vast educational resources at the Capital would be opened up to the choice spirits of the country. Here would be found a body of students attracted by the opportunities for investigation in every field of knowledge. They would come from the graduate schools for periods of study and return to them for their final honors. America cannot fail to use its best agencies toward the realization of its ideal. A national university would become a higher than political interest of our representatives. It would be the sign and the fulfilment of the most advanced ideas of free and efficient government.

by the British Board of Education. The scheme is designed to establish a permanent organization, and it is pointed out that the research done should be for the kingdom as a whole, and that there should be complete liberty to utilize the most effective institutions and investigators available, irrespective of their location in England, Wales, Scotland, or Ireland. There must, therefore, be a single fund for the assistance of research under a single responsible body."



APPENDIX

A

THE SCHOOLS, DEPARTMENTS, AND ACTIVITIES OF THE PRESENT AMERICAN UNIVERSITY CLASSIFIED

For reference, a partial list of the departments actually found in "University" announcements is here presented in a classified form: (1) University—including the graduate, professional, and technological schools, and special courses which are of university grade or are likely to become such. (2) Research and Publications, mostly of university rank. (3) Government, State, City, and Social Service, most of which requires expert knowledge. (4) College, including some courses which might be ranked under "University." (5) Extension Work, belonging to both university and college.

1. UNIVERSITY

Graduate School (Arts and Sciences)	Architecture
Graduate Courses in Professional and Technical Schools	Landscape Architecture
Schools of	Forestry
Medicine	Graduate Work in Agriculture
Law	Courses in Applied
Theology	Chemistry
Engineering	Physics
Civil	Biology
Electrical	Geology
Mechanical	Business Administration
Mining	College of Religion and Social Science
Chemical	Affiliated Theological Seminaries
Marine	Affiliation with State and City Cultural Institutions
Conservation	

2. RESEARCH. PUBLICATIONS

Investigations in Sciences of
 Chemistry
 Biology
 Physics
 Physiology
 Anthropology
 Assyriology
 Babylonian Religion
 Spiritualism
 Railroading
 Prehistoric Medicine
 Mental Aberration
 National Sanitation

Journals of
 Physics
 Chemistry
 Civil Engineering
 Experimental Zoology
 Morphology
 Comparative Neurology and
 Psychology
 Anatomy
 History and Political Science
 Philosophy
 Classical Philology

3. GOVERNMENT, STATE, CITY, AND SOCIAL SERVICE

U. S. Service:

Geological Survey
 Reclamation Service
 Conservation Commission
 Interstate Commerce Commission
 Commission on Industrial Relations
 Department of Labor
 Bureau of Insular Affairs
 Isthmian Canal Commission
 Coast Survey
 Bureau of Standards
 Bureau of Chemistry
 Department of Agriculture
 Bureau of Mines

State Boards and Commissions:

Geology and Natural History
 Geological Survey
 Fish Commission
 Board of Health

State Boards and Commissions:

Tuberculosis Sanatorium
 Hygienic Laboratory
 Chemistry Board
 Forestry Commission
 Park Board
 Board on Highways
 Conservation Commission
 Board of Water Supply
 Water Survey
 R.R. Commission
 Sealer of Weights and Measures
 Board of Accounting
 Historical Commission
 Free Library Commission
 Legislative Reference Library
 Board of Industrial Education
 Tax Commission. Tax Revision

State Boards and Commissions:

Industrial Commission
 Public Utility Commission
 State Factory Investigation
 Board of Public Affairs
 State Board of Control
 Uniform State Laws
 State Board of Agriculture
 Soil Survey
 Live Stock and Sanitary
 Board
 Butter Makers Association

City Service:

Public Health
 Public Sanitation
 Medical Inspection of
 School Children
 Public Baths
 Fly and Mosquito Control
 Inspection of Foods
 Analysis of Foods
 Board of Water Supply
 Analysis of Coal
 Preparation of School Re-
 ports
 Investigation of City Schools

Associations in which the Faculty of one University is Represented:

American Public Health
 Association
 American Museum of Safety
 and Sanitation
 American Association for
 the Study and Prevention
 of Infant Mortality
 Society for the Advance-
 ment of Clinical Study
 American Association for
 Cancer Research

Associations in which the Faculty of one University is Represented:

Private Hospital Associa-
 tion
 Academy of Political Science
 American Historical Asso-
 ciation
 National Civic Federation
 New York Civic League
 American Statistical Assoc-
 ciation
 National Tax Association
 Tax Payers Association
 American Conservation
 League
 International Congress of
 Social Insurance
 American Association for
 Labor Legislation
 Honest Ballot Association
 State Charities Aid Associa-
 tion
 National Child Labor As-
 sociation
 Tenement Economics So-
 ciety
 American Home Economics
 Association
 American Psychological As-
 sociation
 Measuring Efficiency of
 Schools and School Sys-
 tems
 American Nature Study
 Society
 Kindergarten Association
 Physical Education Society
 Vocational Guidance Asso-
 ciation

Associations in which the Faculty of one University is Represented:

Music Teachers National Association
 American Ethical Society.
 New York Ethical Culture Society
 Society for Moral and Social Prophylaxis
 New York Zoological Society
 International Society of Chemical Industry
 American Society of Engineering Draftsmen
 Tree Planting Association

Some of the Problems Engaging University Interest:

Public Health
 Prevention of Tuberculosis

Some of the Problems Engaging University Interest:

Child Hygiene
 Health Problems in Education
 Tests of Classroom Efficiency
 Vocational Guidance
 Industrial Education
 Improving Conditions of the Poor
 Child Labor
 Labor Legislation
 Housing
 Relief of Distress
 Government Publicity
 Efficiency in Civil Service
 Recreation

4. COLLEGE

College of Liberal Arts
 Schools of
 Art
 Music
 Chemistry
 Household Arts
 College of Education
 Courses Preparatory to
 Teaching Hygiene
 Settlement Work
 Sanitary Inspection
 College of Commerce
 Business
 Banking
 Administration
 Manufacturing

Transportation
 Insurance
 Journalism
 Seminaries (in one University College)
 Special Criminology
 Administration of Punitive Justice
 Theory and Practice of Legislation
 Public Utilities
 Contemporary International Politics
 Exploitation of Natural Resources

5. EXTENSION WORK

Summer School	Mining Institutes
Correspondence Study	Agricultural Experiment Stations
Evening School	Farmers' Reading Courses
Saturday Classes	Farmers' Wives' Reading Courses
Teachers Institutes	Dairy School
Rural School Leaflets	Stock Judging
Public Lectures	Butter and Cheese Exhibitions
Library Extension	Corn-Growing Contests
Home Study Courses	Milk-Producing Tests
Civic Improvement	Bakers' Institutes
Settlement Work	Spraying Demonstrations
Organized Charity	Information Bureau
Social Reform	Material for Debates
Public Health	Expert Assistance
Mechanics Institutes	Choice of Professions
Investigations and Reports on Shops and Plants	
Instructions to Workers in Shops and Plants	

B

REPLIES TO CIRCULAR INQUIRY ON MODERN UNIVERSITY AND COLLEGE PROBLEMS

In connection with this study inquiries were submitted to leading universities and colleges. Summaries of the replies and extracts from them are used as an appendix for reference. Facts and representative opinions, such as seem significant, are given regardless of any particular points of view of the author.

1. *Please note any recent important changes or plans in your University or ideals to be attained—for the Graduate School, the Professional Schools, the Technological Schools, Efficiency of Teaching, Student Problems, Administration, Extension Work and Public Service.*

Graduate School.—Very few universities reported any changes in the graduate school. Two points are noted showing a commendable purpose to develop graduate work slowly and on a

sound basis. "The most recent change has been the admission of the Department of Botany to the privilege of giving work leading to the doctor of philosophy degree. There are now three departments that have been granted this privilege, namely, Chemistry, English, and Botany." "It is proposed to classify the students entering the graduate school more definitely as candidates for Ph.D., candidates for M.A., and special students not seeking a degree. We plan to be much stricter in admitting students." This opinion comes from an older university: "The great fault in our graduate schools at present is duplication. Every university tries to teach all kinds of things in its graduate school, and therefore has many weak departments instead of a few strong ones. The competition shows itself at its worst in the encouragements that are offered to fellows, and there is a tendency to injure the standards of the teaching profession thereby. I believe it necessary for each place to make a choice of the things which it will try to teach well and let the others go; and that our inter-university organizations can do a great service in enabling their members to divide labor in this fashion."

Professional Schools.—Minnesota reports the development of graduate work in medicine upon the same basis as that mentioned by the university in regard to all advanced work in the graduate school. The object of this graduate work in medicine is the development of medical scientists, teachers, and specialists. This university has placed pharmacy on a full high-school entrance basis, as many others have done. It calls attention to the fact that a number of the leading colleges of pharmacy are increasing the length of their minimum courses to three full university years, and are reporting increased attendance upon their four-year courses leading to the degree B. S. in Pharmacy. Johns Hopkins has established full-time clinical professorships in surgery, medicine, and pediatrics. "The College of Medicine of the University of Cincinnati, located in and at the new General Hospital which we have just opened, is being progressively developed to make it a great clinical, teaching, and research school. This new hospital has been built in all its departments with special reference to teaching and research. The facilities for teaching are excellent. The college laboratories are built right in the hospital. Every ward for twenty-

four persons has its laboratory. Every department, every ward of the hospital is thus made a true laboratory, a place for teaching and research. In connection with the hospital is the training school for nurses, with a course based on a high-school education, which will later probably become part of the medical college of the university. It is proposed also to develop here a school for sanitarians in connection with the Board of Health, which has its disinfecting plant upon the same grounds. The scientific school of dentistry is provided for, but not yet organized. The buildings and equipment of this new hospital medical school, which cost \$4,100,000, are so extensive that I refer you to the enclosed publication for description. Connected with this main general hospital are outlying hospitals for tuberculosis and for the insane. Ground has been acquired also, in addition to the hospital, for night and day tuberculosis camps. All of this is under one management and connected with the university for the purpose of administration, teaching, and research."

Ohio State University: "Much attention is now being given to the contemplated new four years' curriculum in dentistry. The change from three to four years will be very beneficial in that it will allow ancillary subjects, such as technical drawing, biology, English with scientific and vocational slant, and physics, to be brought into a course now carrying in its three years perhaps too much technical training without proper mental equipment. I note that the University of Minnesota has a combined course offered in arts and dentistry of six years. This course, gradually adopted in the strong American universities having colleges or departments of dentistry, will help greatly in advancing the cultural tone of the dental profession."

The Oberlin Theological School has been placed on a graduate basis. Columbia Teachers College is now on a graduate basis, except the departments for kindergarten and elementary school supervisors. There is a general movement to place law and medicine on the two-year college basis.

Technological and Other Special Schools.—The tendency to improve standards, add special schools, and increase "extension" service is noteworthy. "The conservatory of music now has the same admission requirements as the arts college." "The college of engineering is doing a large service." "The

agricultural college is reaching the state." "The college of commerce (University of Cincinnati) will be conducted on the co-operative plan, like the college of engineering." "We have recently established a school of household arts." "We are developing a teachers' college." "A fifth year has been added to engineering." Ohio writes: "In the college of engineering there is a belief that the technical has been over-developed at the expense of the fundamental in engineering curricula. We are attempting to correlate the fundamental work; also the technical courses. The next step will be a better proportioning of the fundamental and the technical. We hope to make engineering training a homogeneous whole, instead of a lot of separate blocks of knowledge loosely tied together."

Efficiency of Teaching.—"We are raising the standards of scholarship and research." Oberlin is making efficiency tests of its college work. The Harvard department of economics has invited the division of education to inspect its work and report upon its methods and efficiency. "The supervising of the younger by the older teachers is increasing." "We endeavor to get the instructors in one department to confer with instructors in other departments." "We are discussing a reduction in the amount of assignment, and an increase in the amount of actual work done by the student in the way of practice and application of ideas (Eng. Sch.)."

Student Problems.—There is a general tendency to adopt some form of student government, including the honor system, when the conditions and the student sentiment become favorable; to appoint faculty advisers, and to regulate extra-curricular activities. Harvard gives lectures to freshmen on methods of study. One institution reports: "The interests of undergraduates are now more effectively served. Through the office of the dean of men, freshmen and sophomore men are advised as to registration, and are given such assistance and direction as undergraduates are likely to need. Bi-weekly reports of scholarship are made to the office of the registrar, and from this office reports are made available to the dean of men, the junior dean of men, and the dean of women. The office of the dean of men also co-operates closely with the fraternities in the interest of scholarship and conduct, and the dean of women performs a similar service for the sororities."

Administration.—Little is reported on methods of administration except what appears under the third question. One college notes the organization of related departments into groups, each group having its chairman and holding frequent meetings.

Extension Work and Public Service.—The university extension movement and the general aim at public service are rapidly growing, and conservative institutions like Harvard, as well as younger universities which are expanding their fields, are in line with this tendency. Iowa gives a comprehensive outline of extension work in education, business, social welfare, municipal information, public administration, debating, and child welfare.

2. *Should the American university develop on the "English" or the "German" plan? What is to be the future of the American university? What is the ideal for the American university?*

Every variety of plan is represented in the opinions given: The English type adapted to American conditions; the English plan, that is the plan of the development of the individual colleges; combination of the better parts of the English and the German; compromise between the English and the German—the one too cultural, the other too materialistic and narrow; elements of the English for the undergraduate courses, of the German for the graduate. "We now have the German university piled on top of the English." "We need universities on both plans. The English aims at culture and public service; the German at professional efficiency. We may be thankful we have kept the standardizers at bay in this field." "The American plan is to be advocated because here higher education rests on the American high school." "America must have a type of its own resembling the state university, although we have need of schools that approximate the German type, i.e., professional schools of research." "Germany has the most influence now, but we have not yet developed an American plan. Practical research will influence the future organization of the American university." "The American university should develop on an American plan—the outgrowth of conditions in

this country. Re-examine both English and German to see if they are in accord with our needs."

"The work of the coming university will be the training of experts in technical pursuits; training for professional life; popularization of education or dissemination of useful knowledge acquired by research in the universities."

"There will be technical schools, achievements in science and literature, wide range of training for citizenship."

"It will be a graduate school of the German type with less preliminary work in the university. The undergraduate departments in the university will be divided into groups, analogous to the English colleges."

"Science applied to public service will be relatively more important than now."

"The liberal arts college for a long time to come will be the center of the university with more or less professional schools around it. The college may ultimately grow into a graduate school."

"A good ideal for the American university would include some such suggestions as the following: (a) The normal minimum age of admission should be about twenty years. (b) It should include such faculties as medicine, law, philosophy, engineering, etc.—'philosophy' including all that is comprehended under 'graduate school.' (c) The preparation should be gained by the student from two to three years earlier than at the present time through the reorganization of the subject matter, methods of teaching, and aims of that portion of our present school organization beginning with the seventh grade of the elementary school and continuing through the senior year of the college—with the central purpose of eliminating waste of time and effort. (d) The bachelor's degree should mark the completion of this reorganized secondary education and the beginning of the more specialized or professional courses in the university. (e) The student should receive more guidance than in the German university. (f) There should be a series of specialized departments of research conducted by two types of investigators: (1) those who are also teaching, their researches contributing to their development, and adding a stimulus to the students; (2) those who are very successful in research work, though they have little ability and desire for teaching."

"The ideal involves: (1) higher training of young men for specific vocations in life: (2) provision for investigation in all fields of human knowledge."

"As I understand it the American universities ought to advance along the line of the German-American plan, that is, the establishment of the junior college, the course in which shall be required for admission to all the different colleges."

"Our larger universities have now reached the point where they should no longer encourage students to come to them for elementary work in the humanities and pure science. Let this work be done in the smaller colleges and the better equipped high schools."

"Provide research for the true university. The Princeton tutorial system corrects the lecture system run mad."

"American higher education is not constructive enough in meeting conditions of our own life."

"The ideal—furtherance of learning; development of public-spirited citizenship; informing opinions of the people upon all social, political, and industrial problems."

"The ideal of the American university seems to me to be service of the community, by way of providing (1) a liberalizing and enlarging of the mind and its powers, in which is included cultivation of character, and (2) technical training in the widest sense."

"The American college is a place without undue vocational aims; it stands for interpretation. The ideal for the American university is the college with the professional schools grouped around it."

"It should be an institution for leadership, discovery of valuable knowledge, touching the life of the people at as many points as possible."

"The ideal for the American university is to serve best its particular constituency. It means that the German plan as at Clark and Johns Hopkins, the English plan as at Princeton, and the various other plans elsewhere should continue on trial."

"I conceive the ideal American university to be a place where two types of education should always be in process—the instruction given to large groups of people for the baccalaureate degree; and graduate instruction. The latter in my opinion

should always be a secondary part of the university activities; it is its crown and its flower, but it should not be its root and its stock."

3. *Should the form of administration of the university be "military," "functional," or "democratic"?*

Naturally, most of the opinions favor the "democratic" or the "functional"—the functional being advocated by many who have given deeper thought to the subject.

"In my opinion the administration of a university should be military rather than either functional or democratic. By military I suppose the questionnaire means there must be a clear line of authority from the top to the bottom. In my opinion we in this country waste an enormous amount of effort and time in trying to secure efficient production by methods which are democratic, and I think the whole American educational machine is weakened, as our political and administrative machine is undeniably weakened, by straining unduly to preserve the so-called democratic ideal. Efficiency in manufacture and industry is gotten by putting responsibility or power upon one man. That man subdivides his power and his responsibility by steps, down to the very lowest man in the establishment, and everybody is accountable to the head, and the responsibility for poor production can be traced and errors corrected. In education we see about us the most glaring incompetency, inefficiency, and ineffectiveness, which we, as yet, seem unable to control or prevent, because of the traditional stressing of the independence of the individual in this country. Teachers, above all others, seem unwilling to bend their neck to authority, and to make themselves an efficient part in an efficient whole, and to that extent I think they themselves are inefficient. The conception of the word military in the minds of most implies something unsympathetic, impersonal, and harsh, but to me it does not mean any of these things. To me it means that any man from the lowest to the highest can have views, and can express them, and can have them considered, but, after the consideration is had, the proper authority makes a decision, and then the discussion is closed, and action ensues. My criticism of university life as I see it is not that we discuss things

too much, but that there is too great a difficulty in getting action on our conclusions."

"The form of administration, I think, should be functional rather than military or democratic. In this connection may I say that J. McKeen Cattell and others who have recently been lauding the democracy of the German university control as compared with the despotic form common in this country, ignore the fact that in Germany there is an absolute Czar of the universities of each territory in the person of the Kultus-Minister. The actual condition in Germany is therefore very far removed from the picture presented by Professor Cattell and others."

"The form of administration should be functional. This, however, is not opposed to democracy. Democracy demands efficiency and is entitled to it so far as it can be obtained without a sacrifice of any important democratic principle. The functional system is apparently growing in favor. It enables the people to centre responsibility upon individuals and require of them proper results."

"The 'democratic' form fails from sheer force of numbers and intense individualism in large faculties and with large bodies of students. It is extremely wasteful of time. It brings unintelligent action quite as frequently as intelligent action. While change is easy progress is difficult. A large faculty under the democratic organization becomes increasingly indifferent and incompetent, subject to imposition, and by turns ultra-radical and ultra-conservative. Faculties lose in educational ideals as they grow in numbers, unless an extensive committee organization under fine leadership transforms a nominally democratic body into a body of the functional type. On the other hand the military or autocratic type may be highly efficient and yet result in the long run in losing to educational service the qualities of loyalty and self-sacrifice. Success in perfecting the educational machine may actually be accompanied by the degradation of the teaching profession. A benevolent despotism is still a despotism. The functional or representative form of administration in locating responsibility is as good as the autocratic type."

"The administration of a university should certainly be democratic in spirit and in fact. The ideal would be a president

with what may be called a cabinet of the administrative heads of the several faculties, having the breadth of vision, a fulness of appreciation of scholarship and service through scholarship, and an ability to understand and value, as well as thoroughly evaluate, the motives, ambitions, and endeavors of all who labor in the university; such as would enable him to make it his peculiar business to discover, guide, encourage, harmonize and crystallize all these forces into continuously developing functional policies, which would be truly representative of the minds and the purpose of the men who make the university. Here is at least the possibility of a more truly democratic administration than is ever likely to be realized through much open discussion and faculty voting. Of course we have here the old Aristotelian dilemma respecting the best form of government."

4. *What subjects should be required in the college in preparation for the study of medicine, law, engineering?*

All the reports assume that at least two years of college should be required for admission to the schools of medicine and law, and, with few exceptions, that preliminary courses adapted to the particular professional study should be prescribed. They agree upon biology, physics, and chemistry for medicine, and most add psychology. Law is to be based on history, the political and social and economic sciences; some add psychology, logic, ethics, and public speaking. One suggests that a reading knowledge of German and French should be obtained in the high school. For engineering there is a division of opinion between the four-year course and the six-year—counting two years of college as part of the six years; mathematics, physics, and chemistry are prescribed. For "Education" Harvard recommends biology, psychology, economics, sociology, government, and philosophy.

For medicine the Chicago requirements are: two majors of inorganic chemistry, one major of organic, one of qualitative analysis—one of quantitative analysis is recommended; two majors of college physics; two majors in biology; reading knowledge of German or French; two years of high-school Latin.

Iowa submits the following: "The subjects that should be required in the reorganized secondary schools—from the thir-

teenth year of age to the twentieth inclusive—for admission to the faculties of medicine and law should include at least the following: (a) the English language and literature—five years; (b) history, civics, economics—five years; (c) physical sciences—three years; (d) biological sciences—three years. It would be well, but it should not be necessary, also for the students preparing for these faculties to include four years of foreign language."

"No one is fitted to begin the study of modern medicine who has not a comprehensive working knowledge of the fundamental facts of physics, chemistry, and biology. Students must, in order to accomplish the greatest results, be trained to speak and think in biological, physical, and chemical language. It is now conceded by most of the literary colleges that it is impossible to give the desired training in these fundamental sciences in one year, unless all other subjects are neglected. Two years' college training is the minimum time in which such science training may be done satisfactorily."

"Authorities in medicine, law, and engineering should not be allowed to monopolize the first two years of the college course with work specifically preparatory. The desired preparation for professional schools should be indicated only in part by the professional men, and they should have power only to advise in the matter. The decision should rest with those chiefly solicitous about general educational fitness for professional study, that is, with teachers of arts and sciences. Only the indispensable fundamentals (studies prescribed by the nature of the subjects) should be named by the professional men. The remainder of the two years should be made up with a view to general education."

"I believe in the six-year courses for medicine, law, and engineering. I am utterly opposed to a four-year cultural course before beginning these subjects. The students become stale."

"I do not believe that any one particular subject should be prescribed for preparation for the study of law. I think that the student should be encouraged to specialize in the English courses, languages, and history. I do not believe in the social science group as a preparation for law."

Chicago recommends pre-legal courses chosen from among the

following subjects: principles of political economy and political science; constitutional and political history of the United States; national, federal, state, and municipal government; constitutional and political history of England; oral debates and argumentation; book-keeping and accounting; railway transportation and regulation of rates; economic and social history; finance, money, and banking; financial and tariff history; labor and industry; organization of business enterprises; introduction to study of society; social origins; contemporary society in the United States; industrial groups and urban communities; charities and social treatment of crime; social forces in modern democracy; logic and psychology; political and social ethics.

"On the preparation in college for the study of engineering, would say that, theoretically it would be very beautiful if we could make the engineer a strictly professional man, who should stand exactly on a par with the lawyer, the doctor, and the teacher. The bald fact is that in engineering, as in the majority of the other walks of life, there are required great numbers of men who have had a decent amount of training, and who are fit to be put into minor positions of authority. These men are big enough to be department heads, but not big enough to sit in the front office. Modern industry and engineering need thousands of such men, where they need hundreds of men of the highest professional stamp. I conceive that this condition is likely to be permanent."

5. *What devices are used in your university to shorten the combined college and university courses?*

Devices are employed as follows: registration for more than the ordinary number of hours; counting high grades as additional credit; vacation work; limiting the course to three years, like Clark College, whose degree is accepted by some professional schools requiring the full college course; accepting one or more years of professional study toward the college degree, or in some cases anticipating professional studies in the college. A very general custom is to count one year in law and one or two years in medicine toward the A. B. degree, thus permitting the completion of the college and law courses in

six years, and of the college and medical courses in six or seven years. It is common to give the college and engineering degrees in six years. A distinction between the B. S. and the B. A. degree is made in some universities—the B. S. and the M. D. degrees being granted in six years and the B. A. and M. D. degrees in seven years. Johns Hopkins does not allow students to anticipate medical or graduate studies. Some separate colleges accept toward the B. A. degree one year taken elsewhere in engineering, law, medicine, or theology.

Ohio writes: "We frankly accept the principle of combination courses, not primarily to shorten the period of study for the average student, but as a recognition of superior attainment and ability. For students of higher than average ability, we have numerous combination courses leading to two degrees. In Arts-Law, Arts-Medicine, Arts-Agriculture, Arts-Education, Arts-Engineering, Arts-Domestic Science, a student who spends three years in Arts, fulfilling all the requirements of the Arts degree up to the fourth year and also completing certain specified studies thought or known to be essential to the prosecution of the professional curriculum, may, if above the average in his studies, count as his senior year in Arts the first year of the professional course."

Here is an apt quotation on the whole list of devices, coming from Iowa: "In these combined courses, as well as in the rather widespread practice within recent years throughout the Middle West and the Far West, of requiring two years of general college work for admission to such professional colleges as that of medicine, we seem to recognize what is largely a natural tendency to shorten the period of general preparation for professional studies as compared with what may in some quarters have been looked upon as the ideal—the bachelor's degree. We appear to be giving the bachelor's degree after four years of college work in the cases of students who go on to a professional degree in medicine or law; whereas in fact we are giving the ordinary liberal arts bachelor's degree, to such students as go on to a professional degree, for only two years of liberal arts work (as liberal arts work is distinguished from professional work); although, as a means of saving our academic face in some measure, we ask such students to wait, until after they have studied two years longer in a professional college, for the formal con-

ferring of the first degree. Why not give the bachelor's degree outright to all who complete the sophomore year in college; especially in case we can so reorganize and consolidate the work which now lies between the end of the sixth grade and the end of the senior college year as to secure for the student by the time he completes the sophomore year at least as good a foundation, in every best sense of the term, for the pursuit of professional studies as he now gets by two or three years longer in college? "

6. *What distinction do you make between the first two and the last two years of college (Junior and Senior college)?*

The larger number of answers shows important distinctions between the work of the first two years and that of the last two years of the college. The junior college is more like the high school with studies more or less prescribed; the senior college is "of university grade," "offers vocational courses in the senior year," "is an immediate preparation for the graduate school," "is elective," "offers courses in law, medicine, teaching, and business," "requires majors," "considers the last two years pre-professional."

The conservative view is well expressed by Lawrence College: "We make no external distinction between the 'Junior college' and the 'Senior college,' and do not approve of any such distinction. By means of prerequisites, by a system of majors and minors, and by requiring students to do the 'required work' as early in the course as possible, we aim to bring it about that the work of the junior and senior years shall differ from that of the freshman and sophomore years in its content, method, and spirit. During the first two years, foundations are laid, definite requirements are met, informational instruction is given, the student is aided in discovering his interest, he acquires the nomenclature and other implements of several fields of knowledge, and the fundamental concepts of the subjects in which he is to go further are gained. During the junior and senior years he is thrown more completely upon his own initiative, he is expected to demonstrate whether he has acquired the power to work independently, and he gains further experience in ascertaining facts, handling material, and correlating knowledge."

7. *By "economy of time" in the elementary, high-school, and college periods, can two years of school and college be saved without loss of knowledge and power?*

Two-thirds of the replies say unhesitatingly "yes." Some limit the saving to individual advancement; some think one year may be saved, some say "possibly"; only one says "no" outright. A solitary voice is heard for the academic degree as prerequisite for law, medicine, and engineering.

Chicago: "In my opinion there is not the slightest difficulty in providing for the saving of two years from school and college without loss of either knowledge or power. In the University Elementary School, the laboratory school of our department of education, one year has already been saved in this way."

"In my judgment, time could be saved—certainly one year and perhaps two—if the elementary, high-school, and college courses were more closely correlated, and each did its maximum. The courses in elementary and high school should be elastic as at present in most colleges. I mean by that that in this college as in many others a student may complete the course of 120 academic hours in three years by maintaining the highest rank, taking the maximum amount of work, and supplementing by at least one summer term. I do not regard this as detrimental either mentally or physically to the bright and healthy student. On the contrary, I think it better, both from the point of view of the development of mentality and preservation of a good physique. I do not see why the same rule cannot be applied in the high school and even in the elementary school."

"Undoubtedly a reorganization of our elementary, high-school, and college education might result in a saving of two years without the loss of knowledge and power. In fact this economy is already being obtained for not a few pupils of the public schools. Wise parents and teachers by co-operating often enable students to finish the public school two years under the average age without any notable loss of either power or knowledge, but rather a decided gain in both lines. At present, however, this seems to be accomplished by defeating rather than by carrying out the present system."

"In general, I believe that the attainment of the bachelor's degree at the age of about twenty-three is not justifiable, whether

for those intending to enter business or those proposing to enter a profession. It seems to me there is too much 'marking time' in the elementary and secondary schools, and not enough concentration in the college. A general agreement among the educators as to the essentials would result in the elimination of some things that are of no particular interest or value and thus bring about a saving of time in the adequate treatment of necessary and desirable studies. I see no valid reason why two years might not be saved, not only without loss, but with an actual increase of interest, knowledge, and power. This problem has been solved in the French and German schools, and the universities in Germany and France are thus relieved of doing the work of secondary instruction that is done in the United States under the name of college teaching."

"I feel rather strongly that we are wasting a considerable amount of time, especially in the elementary schools. I have known several instances of boys of seven or eight starting out with the fourth grade and having no difficulty in keeping up with the others, and in one case at least there was no systematic training at home previous to entering the school."

"For many students, yes! Our solution lies in enlarging the possibility for individual students rather than in a complete change of the administrative units, save that I would begin professional education with the third college year."

"It is possible that one year of time may be saved by telescoping in some fashion the elementary, high-school, and college courses. But I am very doubtful of the advisability of trying to save two years. It seems to me that the problem of economy of time in education should not be stated so much in terms of saving years as in terms of putting more education into the years spent."

8. *Should the college course ultimately end two years earlier and university work begin nominally at the age of 20 instead of 22?*

As with the previous question the majority answer "yes" without qualification; one says positively "no." Single opinions are expressed as follows: "only for exceptional students;" "for many students;" "the age of twenty-one best;" "doubtful, do better work in the time;" "a possible goal, but better to do away with arbitrary distinctions between

college and university;" "possible, but the time is less important than the education received."

"At present every freshman class in the larger colleges has members, who, because of unusual capacity, studiousness, or the efficiency of school conditions, re-enforced by parental influences, have entered college at sixteen and will graduate at twenty. Late entrance upon higher instruction seems peculiar to the United States. It is a common opinion that pupils in European secondary schools are about two years in advance of American pupils of corresponding age. Two years ago, at the suggestion of President Lowell, Professor H. W. Holmes made a study of the college record of 5769 students (all the regular freshmen who entered Harvard College in the classes from 1902 to 1912 inclusive) in order to discover the relation of both conduct and scholarship to age at entrance. Setting aside as too small for safe conclusions the 15-year group of 19 freshmen, and the larger 16-year group of 218, who might be considered boys of unusual ability, and also leaving out those who entered at 20 or later, no large number, there remained three groups—1102 who entered at 17, 1981 at 18, and 1394 at 19. Of these three groups, that which entered college at 17 excelled, in both conduct and scholarship, the groups which entered at 18 and 19, and the group which entered at 18 excelled in both respects that which entered at 19. The college thus got better results in conduct and scholarship from the younger men. It may be added that the conduct and scholarship of the freshmen who entered at 15 and 16 respectively were decidedly superior to the behavior and rank of their older classmates. The results of this interesting comparison should tend to reassure parents who hesitate, because of the lack of age, to expose their sons, though intellectually prepared, to the risks of college life. Those who graduate at 20 will be able to enter upon their professional career two years earlier than the graduate of to-day, and their period of active life, of achievement and service will to that extent be prolonged."

"There is no reason why a normal boy or girl should not complete the college course at 20, with good instruction. In fact any ordinary boy or girl who has been well taught throughout can get through college by the age of 18 without loss of knowledge or power. One great difficulty we have to meet is

that a very large number of our students stay out of school a year or two, and that necessarily postpones their entrance upon their professional work."

"I am firmly of the belief that the American colleges and universities, as well as the lower schools, are going to undergo such a change as will make it possible for the young man to begin his life work at least two years earlier than he now can, and with just as good equipment as he now has."

9. *Should the University (Graduate School, Professional Schools, Engineering, etc.) be built on the first two years of college?*

Those who give an unqualified "yes," and those who qualify their statements are about equal in number, the positive "noes" being a small minority. Except the few who would retain the four or at least the three years of preparation for the professional schools, most agree to the two-year college basis for law and medicine. There is hesitation about engineering and more about the graduate school. "Pre-engineering courses of two years are not well attended." "It is desirable that the minimum requirements of the professional schools be the equivalent of two years of liberal arts work. This I would apply to engineering, law, medicine, commerce, teaching, journalism, and possibly, theoretically to agriculture for experts in agriculture. Medicine and law are on this basis, but it is not feasible at the present time to put the other subjects on the same basis." "For the professional schools and engineering, yes; three years for the graduate school."

"Ultimately professional work will be built on full four years of college work as is the case now with the graduate schools and with some of the best professional schools. The two-year preparation is to be regarded as one step toward full preparation. The saving of time for well-endowed youth (sought by question 8) will be effected by the reorganization of secondary education now rapidly proceeding and actually accomplished in a few places such as Joliet, Illinois."

"The university should be a true graduate school, and therefore should be built on four years of college work. One of the weaknesses of the German university at the present time is the large amount of elementary work it is compelled to offer to the same students who are doing really graduate work in other

lines, because the gymnasium does not really complete the preparation for graduate work." [Under question 8, he claims that college graduation might be at the age of 20 or even 18—a very important point.]

"The university might be built on the first two years of college work, but it is difficult to see how this can be brought about until the reorganization suggested by Question 7 shall have been brought about. The American college has been too efficient an educational institution to be ruthlessly discarded. The educational demands of the time, however, will have to be met and all institutions required to adapt their work to such ends."

"In my opinion all university work should be built on the first two years of college. This ought to include engineering, although there seems to be more objection to this than in the case of any of the other professional schools."

10. *Please note any recent changes or new points of view in the aims and methods of your college.*

"The college is gradually dividing up into specialized groups and is losing its vagueness. Most college students now have some definite aim in view and the college is gradually changing to meet this condition. That is, college students are studying to go into business, insurance, banking, journalism, domestic science, and so forth."

"I think it highly advisable to have in the freshman year of college a course aimed to direct the student toward proper courses and careers, say a one-year course, with methods of work and study running throughout and parallel thereto some discussion of careers open to college men and the courses useful in preparation for the same. Such courses are in operation at the University of Washington, Reed College, University of Toledo, and other places I cannot now recall."

"We direct the student, as soon as he enters college, along the line of election of options under the curriculum that will best fit him for the aim he has in life. We attempt to find out as soon as possible the student's intention."

"We are trying to increase the efficiency of our pedagogical methods, and shall next year introduce an important group of commercial studies."

"There has been introduced this year in the college of science, literature, and the arts an honors course, intended specifically to train students for graduate work and productive scholarship. Plans are under way for the development of vocational courses."

"We are securing a higher quality of work, and are considering the elimination of those students who do not show the ability and the willingness to do work of a high grade."

"We are moving toward a greater freedom in methods of work in the third year (Clark College, three-year course); are participating in the movement of Massachusetts institutions to supply more fully extension work and public service; are aiming at better methods of teaching and student work, rather than variation of college machinery."

"We have been making a careful study of the tests of efficiency as applied to the college, that has resulted in many changes on all sides of the college work. We have also been securing a much larger measure of student co-operation."

"The colleges have come to a feeling of responsibility for the whole life of the student. Interference with extra-curriculum activities has greatly increased. This is not merely for the purpose of preventing abuses that would always be subject to discipline in any self-respecting institution. It is the college phase of the general uplift movement to be seen everywhere in the world to-day. It means a determination to use all possible means to raise the level of individual and community life."

11. *How far should the college become vocational (including vocational courses for women)?*

"The college should have no fear of the so-called vocational courses. In a sense the traditional college was vocational. Its courses contemplated the three learned professions and later also the business of teaching. The fact that a subject may be used for earning money later should not count for or against its admission to the college curriculum. That question should be decided on educational values—intrinsic and relative. Our practice is to permit a total of twenty semester hours out of the 120 to be elected from any subjects upon which the student is prepared to enter, including of course subjects termed vocational."

"The liberal arts originated as vocational studies and remained so throughout the Middle Ages. They were the subjects that were considered necessary for the preparation of men for the priesthood. In my judgment they are still vocational, though less consciously and definitely so, for many callings. It is my belief that the college of liberal arts should be made as vocational as possible, without sacrificing unnecessarily the breadth of culture that many occupations of the present day imply, and more or less constantly require. Under the elective system the vocational appeal seems to be operative in the minds of serious students, and the transformation of soft courses into those of real disciplinary value would remove an alternative now open in many institutions to the less serious. The vocational interests of women students are of increasing importance, and should be provided for as far as colleges of liberal arts may do so. Such studies as languages and literature, art, certain sciences, history, etc., are all broadly vocational for women. The phrase 'vocational courses for women' seems to imply more than this. Certain such courses might be arranged, but the number of such courses would be necessarily limited under present arrangements and organization in our universities."

"In response to real and sufficient demands the arts college of a state university should provide vocational training so far as its resources permit. This should include vocational courses of various sorts for women, and especially training for the duties of the home and community life. This does not mean that the college should become vocational, but that it should offer the training which large groups of its students desire, and in so doing should free the channels of culture and scholarly training for those who desire them."

"I believe that the college work should include a larger amount of vocational courses, both for men and women. I have often been struck by the fact that the ordinary college graduate is unfitted to do anything to earn money, except to teach school, and he generally does that in an indifferent manner."

"The college itself should not be vocational, but there should be vocational courses of collegiate grade, perhaps within the collegiate administrative unit. At every two-year interval there should be a group of vocational courses of varying length

as needs dictate. It would be economical if the same equipment could be used for the two classes of students. The plan may be noted as follows: Primary School; Intermediate School—Vocational Schools; Junior High—Vocational Schools; Senior High—Vocational Schools; Junior College—Vocational Schools.”

“Every institution of higher learning in this country should provide courses in domestic science and home making for its women students.”

“We believe more vocational courses should be provided for women. The work in our teachers college, the college of engineering, the professional schools and in household arts is distinctly vocational.”

“The college should not be strictly vocational. But the college student should have in mind from the very first of his college course the vocation toward which he is studying. This is true of the women as well as of the men. A line of study should be provided, running through the four years, to prepare for the vocation of home-making.”

“The college should not become vocational to the point of excluding a fundamental idealism. A certain proportion of vocational emphasis is desirable.”

“Yes, but there should also be pure culture courses all through the college.”

“Vocational motives should play a minor part in the management of the college programme. They cannot be strictly ruled out, however, without loss.”

Other replies are briefly noted: “We present instruction in home economics, library work, and nursing. There are other combinations that can be made for instruction along the line of preparation for social service and training for secretarial work.” “The answer would always depend on the local circumstances.” “Why not altogether vocational?” “Not to any great extent.” “The college should stand for liberal training.” “There is enough of the vocational to supply the proper demand in the high schools, schools of technology, and the universities.” “It would be disastrous for the college to become narrowly vocational.” “There is no sharp line of division between cultural and vocational subjects. Vocational and cultural interests do not necessarily exclude each other. A subject may be entirely vocational and at the same time thor-

oughly cultural. A subject may be taught so as to include both cultural and special vocational interests."

12. *What do you understand by the "New Humanism"?*

"By the New Humanism I understand simply a new appearance of the old desire to avoid formalism in teaching, and to emphasize substance, the realities of the subject, and its applications in life. Perhaps there is more than this in the movement. It is, doubtless, an attempt to check the growth of an exaggerated desire for scientific exactness and absolute reliance on fact in the teaching of all subjects. It is an attempt to bring back the interpretation of life as an aim in the teaching of any subject which offers the possibility of such interpretation."

"By the New Humanism I understand we intend to emphasize that subject matter which interprets life more directly in terms of human conditions and needs—economics, sociology, politics, psychology, civics, history, literature. In method of teaching it means an emphasis on facts as interpreted by their human worth, rather than a mere impersonal treatment of truth. In the arrangement of courses, it lays emphasis upon practicality in the broad sense, whether spiritual or economic. In university values it gives new worth to teaching and practical service as well as research."

"The New Humanism is discussed in the writings of F. C. S. Schiller, William James, J. S. Mackenzie and other pragmatists. As applied to education it is found in expressed or implied forms in the writings of Irving Babbitt, John Dewey, David Snedden and Paul More. It is an unfortunate and confusing term for the reason that many educators understand Humanism to mean, at least in part, Humanitarianism. The old Humanism had an enthusiasm amounting to a passion for all things classical and (usually also) pagan. Christian Humanists were always more or less on the defensive. The New Humanism amounts to a plea for such an enthusiasm or passion in education as used to exist for the classical; but now to be extended on all subjects worthy of study and more especially on the newer subjects. The point of agreement between the old humanism and the new seems to be intense individualism."

"I do not understand that there is any such thing as a really new Humanism. Humanism is a spirit rather than a content,

and the spirit has not been changed by the infusion of a vast amount of new knowledge into the college curriculum during the past century."

"The New Humanism is the term used to apply to the wider concept of the education of the individual for a larger and more effective efficiency in his social relations."

"The making of man and his affairs central to education. The interest in social problems in all their variety is an example of it."

"The New Humanism means, to my mind, the inclusion of all studies and activities and endeavors which have been produced and engaged in by mankind for mankind; provided that they be pursued with the truly social interest and aim, which does not preclude, but rather enhances, the personal interest and aim."

"If there is any such thing as the New Humanism, I would define it as the old Humanism adapted to present day circumstances and uses."

"No definite meaning is attached at present to the New Humanism. In general it means applied Christianity, social service, the improvement of the masses by educational and other means and especially the sharing with the weak by the strong of the advantages of the latter. It means either the overthrow of the competitive system or the placing of competition on a much higher plane."

13. *What are the elements of waste in the college (matter, method, and spirit)?*

"A discussion of waste in college includes a discussion of all the activities of college life. There is a waste from inefficient methods of teaching. There is a waste in the matter of courses which lack relation to modern life and thought, and there is a waste which proceeds from misdirected enthusiasm."

"The waste which takes place in colleges in the material of instruction is quite pronounced. This is due oftentimes to adherence to information collected during candidacy for a doctor's degree rather than adapting the matter to the class that is being taught. There is also a tendency at times to carry instruction along the lines of one's interest instead of along the lines of the needs of the students. I think this criticism

could be made quite generally. Methods are changing and for the better, I think, on the whole, though, as a matter of fact, college professors ought to have a larger knowledge of the history of education and particularly of the methods of instruction that have been tried in other places. Spirit is the great element in all education, and in order to have it the individual must have the point of view of the artist who is willing to sacrifice, if need be, for his profession."

"Waste exists in the college because the college is traditional and academic rather than functional. The work does not fit the human needs of the population at present attending. College work should be a direct adjustment to the needs of those who attend rather than a roundabout traditional adjustment. The vocational and the social destinies of the college population should be surveyed, and the college course modified according to the facts rendered. The college is weak in the definition of ends, save where it has a specialized traditional bias."

"The elements of waste lie in needless duplication of work done; in the scattering of instruction by an excess in the elective system; in a lack of coherence in an organized curriculum; and in an inadequately definite purpose before the student's mind."

"The most serious elements of waste in a college are in my judgment the following: the lack of correlation in college matters; the tendency to multiply the number of courses (more often to satisfy the whims of some instructor than for the purpose of improving the curriculum); the lecture method used too soon in the college course; the lack of personal instruction and personal appeal; the dilettanteism of instructors; failure of instructors to make their teaching vital and failure of students to see that there is anything vital in the instruction; the tendency of students to be indifferent—the spirit which is often imparted in my judgment through indifference on the part of the instructor."

"Elements of waste are: inferior teaching; lazy students; the fact that many students do not know how to study; overlapping of courses; the teacher consulting too little the genuine interests of the student himself; too many highly detailed courses, and too few briefer courses that stir thought vigorously in the realm covered."

"Too great numbers and a too wholesale way of handling immature students; the effort to appeal to the students without intellectual interests by a training and method chiefly intellectual; low standards of student performance; lack of general agreement on objects and methods."

"The largest element of waste in the college is the waste of time and opportunity by students who have not been led by family tradition or the influence of lower schools to take a really vital interest in their own intellectual and spiritual development. I believe that the blame for this condition lies principally in the failings of our family life, but it is also due in considerable part to the lack of a really trained teaching profession."

Some other elements of waste briefly noted: Presenting mere masses of facts without system. Lack of distinction between the essential and the non-essential in subject matter. Choosing courses simply to complete the number of hours. Failure to adapt matter and method to the stage of development. Relating the first two years too closely to the high school—teaching subjects many of which could have been pursued in the high school. Duplication of work in college and high school, in different departments, in different courses in the same department. Crowding all kinds of students through the same curriculum. Putting beginning students into advanced classes. Lack of training in methods of study. Lack of personal touch with students. Making pleasureableness a test of efficiency of method. Coddling poor students. Lack of purpose and definite aim. Neglecting essentials for non-essentials. Devotion to athletic and social functions; interest in all kinds of extra-curricular activities. Low standards of student industry and performance. Spirit with which students and to a less extent the faculty view their college work. On the part of the instructors—doing unnecessary work and repetition of work by committees. Elements of spiritual waste (for the teacher): (1) the encroachments of administrative work; (2) lack of differentiation of the functions of teaching and research; (3) the salary scale—the salary should be fixed at the point of maximum net returns.

14. What can be done to strengthen the purpose and devotion of the college student?

Some of the suggestions briefly stated are as follows: "The faculty should be able to present to the student a worthy purpose and to give him an example of devotion. This will be effective if combined with the proper differentiation of courses of study." "Maintain high purposes and ideals of instruction." "Get a wider view from university methods." "A good beginning would be for individual instructors to hold up and maintain higher standards—not suffer so much slovenly work." "Make a better adaptation of college courses to the needs of college students." "Connect his studies more naturally with the profession or vocation he expects to follow, with his life as a citizen, and with his individuality as distinct from his professional pursuits and civic duty." "Make the student work hard; make all the work in the college serious and exacting; if the student does not develop devotion and purpose tell him frankly and let him out." "Gradually raise the standard of performance required of students and teachers." "Curb expenditure of time on extra-curricular activities." "I would emphasize these three things: the appropriate selection of courses offered, the careful selection of teachers and administrators, and the provision of general inspirational lectures."

"Enforce higher standards; make clear relation of courses to life; bring out for the student the meaning of the college course; indicate the relation of various courses to each other; make clear the less obvious but deep values of the college training; give special opportunities to the best students."

"The greatest help in securing stronger purpose and devotion on the part of the students would be a vigorous determination on the part of faculties and administrative bodies to have them at any cost. This would lead to a better adapted curriculum and better teaching, the enforcement of high standards, the subordination of outside interests, more careful selection of students, and the elimination of those who do not respond."

"The purpose and devotion on the part of the student may be strengthened by an example of devotion and purposefulness on the part of his teachers; the teachers showing that their interest in their subjects is subordinate to their interest in their

students; the teacher's example of enthusiasm and industry in his work; the systematic effort to impress upon the mind the significance and value of the college opportunity; the systematic effort to acquaint the student with the significance and importance of college problems; the appreciation of values other than money values; emphasis on the relation between success in the college and success in after life."

"If we exempt three classes—the students who come to college because it is the fashion, those who have the additional handicap of having plenty of money, and the morally and intellectually dishonest—I believe the 'purpose,' by which I presume you mean clearness of intellectual ideals, and the 'devotion,' by which I understand you to mean a willingness to follow some ideal or aim to a definite conclusion, can be strengthened by the teacher by the following means: first, and most important, the teacher must so choose his material that it is related to something that the student already knows; the subject matter must be presented simply and clearly; the student is to be given a body of knowledge that he feels is his own; to strengthen the student's devotion to an intellectual ideal, encourage him to express his opinions on questions related to the subject, to take stock of himself intellectually, to measure himself with others; add intellectual honesty and fair-mindedness on the part of the teacher; appeal to the student's imagination by letting him see as much as possible of the human and personal side of his subject."

15. *What is the justification of the four-year college course leading to the bachelor's degree at about 23?*

In the replies to the above question, hardly one justifies the age at which the A. B. is now reached, and the majority of answers in general are negative—"no justification." Many would preserve the four-year college, but with graduation at about 20.

"Tradition, and a mixed tradition at that."

"I really know of no justification but an historical one for the four-year college course leading to the bachelor's degree at about 23. I have always felt that our college students should enter not later than 16 so that they would be able to graduate at 20."

"Personally I do not believe there is any justification for the four-year college course leading to the bachelor's degree at the age of 23, unless a considerable amount of specialization is included—such an amount as will enable the student to receive his professional or technical degree in one or at the most two additional years of work."

"None whatever, except for such as have leisure and real ambition for further general studies—such as ought not or do not care to master a profession or trade. For such persons (and I believe that the larger the number of such persons a nation can have, other interests being properly provided for and encouraged, the better for that nation) a couple more years of work and the degree Master of Arts might very well be given."

"In my judgment a four-year college course leading to the bachelor's degree at about 23 is something of a luxury and is to be justified as luxuries generally are justified. It is well that some—those who by circumstances can afford it and by temperament can use it with real advantage—should have the choice of perfecting themselves culturally. For some still more luxury, a still longer course of the English type, is a good thing. We need a fair number of people who have had that privilege, people who have specialized for service in that direction."

"The question is not fairly put. There is in a sense no justification for the completion of a college course as late as the age of 23, because the whole school system ought easily to bring a student to the same point at the age of 20; but the four-year college course cannot be saddled with the primary responsibility for the present condition, and the condition cannot be remedied by cutting the four-year college course, which, I believe, retains its full value as a preparation for the larger responsibility of civilized life."

Professor Henry W. Holmes of Harvard answers questions 13, 14, 15, 16 by references to three printed articles, two of them his own, from which I quote briefly: Professor Holmes finds that the average age of entrance to Harvard since 1853 has risen just two years, from 17.4 to 19.4. It has become increasingly clear that the tendency to enter college late has gone too far, that we need not fear to reduce the average age of entrance, but must rather do all we can to reduce it, that the college must "court youth." An investigation of the records of 5769 Harvard

Students, from 1902 to 1912, is the basis for some conclusions. "The college gets better average results, with less friction, from younger men than from older men." "The college may with confidence urge parents to send their boys to college young. Youth in itself is not a disadvantage to a college student. The college will find it no greater burden to guide and instruct an appreciably younger body of undergraduates. The college may cheerfully and hopefully court youth."—"In America the college stands perforce for culture; yet it clears itself with difficulty from the snares of technical specialization in chosen fields of knowledge—a specialization essentially vocational. College professors must be specialists—scholars in the full sense of the term; but college students do not for their part commonly intend or care to specialize in the same sense. To study one field with greater thoroughness than others; to gain from it a disinterested enthusiasm for learning; to approach in one direction the limits of achieved knowledge; to taste the joy of constructive intellectual effort; these are essential elements in a college student's curriculum. But this does not call for the methods or ideals of graduate specialization, even in the student's chosen field. The privilege of college study is the opportunity to reach safe ground in all the more important fields of scholarship, for the exercise of reflective intelligence. With a view to providing this opportunity college teachers may well spare time from research for that close observation of methods and results and that unprejudiced discussion of aims which are needed in the teaching of all subjects everywhere. . . . The state needs knowledge, efficiency, insight, and idealism in industry, commerce, the arts, science, philosophy, religion, and family life, as much as in citizenship more narrowly defined."—"It is the business of the college to provide the potential energy for the rest of existence, in the shape of motives and ideas; not to import into its work any simulacra of the outer arena. . . . It is a period distinctly taken out of the current of usual life; it involves segregation and a degree of authoritative instruction. . . . The purpose of college is defined as the cultivation of originality; and the result to be reached, philosophy. . . . The college ought to be set free from any direct concern with what is coming after it, so far as special skills and activities are concerned."

"Twenty-three is probably too late, but the general justification for the four-year college course is preparation for life itself; getting the most out of life in lines of character, happiness, and social efficiency."

"That it adapts itself fairly well to the needs of a good many students."

"The four-year course ending at about 23 corresponds fairly well to the period at which the young man attains mental and moral maturity."

"From a practical present day standpoint the justification of the four-year college course has ample basis, and, until our elementary and secondary education have been somewhat reorganized, I see little prospect of success in basing the work of the university, including the graduate school, on two years of college work. The difficulty here is not so much from the standpoint of the university as from the disastrous effect of such a policy upon the separate colleges, a thing which all those having the larger interests of higher education at heart would sincerely deplore."

"A four-year college course enables us to get certain ideals of culture, and I hope it will enable us to have certain ideals of public service also which are in danger of being lost in the attempt to shorten the programme from the high school, where the aim is knowledge (and in many instances very superficial knowledge), to the professional school, where the aim is money making."

16. *If the university (including the graduate school) were based on two years of college, what would be the effect on the separate colleges?*

"Separate colleges are very numerous and very varied in their character. The effect on these colleges therefore would by no means be uniform. Some would continue with increased powers; others would continue without material change; others would become what we commonly call junior colleges."

"My conjecture is that most of the weaker ones would be forced into the position of junior colleges, while many of the stronger ones would develop graduate departments. It is clear that many students are now able and willing to continue in general courses to 23 or 24. Some of these would still stay on

for an A. B. or an A. M., even if it were possible to enter professional schools or other graduate schools at the end of the two years of college work."

"I suppose that a number of students would leave the colleges; I doubt, however, if in the best colleges a sufficient number of students would leave to produce serious results."

"Some of the effects would be the elimination of many weaker independent colleges, and the strengthening of those that ought to survive, provided they select restricted fields, respectively, and include some of the present high-school work in view of the fact that there are now and always will be many of the very small public high schools carrying from two to three years of high-school work."

"Most of them ought to be made into junior colleges, that is, those which have not ample facilities for doing four years' work well. The separate colleges with ample endowment could devote the last two years, the senior college, to preprofessional training, which is merely a reorganization of the materials of liberal education so as to give a more effective basis for professional study."

"If reduction of the age of graduation is desirable, and in my judgment it is, the best way is to make the elementary school and the high school more compact and more elastic and to so arrange courses with the college that a student may enter college at an earlier date. At the same time the college work itself should be made more elastic, so that students of more than average ability and industry can graduate from it in less than four years."

"The effect on the arts college would be to direct the students into their various professions or vocations either in the professional schools or in the senior college, and to leave in the arts college a body of students who are interested only in general culture. It is useless to think of basing the graduate school upon the junior college except in name, since at least two years beyond the junior college is necessary to prepare the student for research work, which is the essential characteristic of the graduate school."

"If the university were permanently based on two years of college work, the effect would be to deprive the liberal arts colleges of their best and most earnest students before their

full contribution to the life of these students was made. I believe that such an arrangement would deprive us of one of the best values yet developed by our American system of education."

"If the whole university, including the graduate school, were based on two years of college, I believe it would tend to destroy the separate colleges. But I believe in the separate college and think it will always exist."

"If the work of the university were based upon the first two years of college, the effect would be to kill some colleges, and cripple others. Some colleges would be degraded to the rank of junior colleges, which would perhaps soon be crushed from below by the advancing people's college. Others would go on giving their four-year courses as they do now. We have no doubt as to the permanency of the college as an American institution. There will always be a large number of families who prefer to have their children influenced by this agency."

"Assuming things to remain as they are in secondary education and in the college itself, the effect would be: (1) to lower the standard of the graduate school by two years, unless of course the graduate school annexed the senior college, which would amount only to a reclassification; (2) to transform the colleges of agriculture, engineering, and education into professional schools without increasing by more than one year the total time necessary for a student to complete the two years of college work and one of these professional courses; (3) to turn the college into a two-year preparatory department for the professional schools."

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